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FARM NOTES.

Ridding Land of Canada Thistles.

I have a field of clay loam that has been in oats for four years, and there are lots of Canada thistles in it. Do you think that summer fallowing would kill the thistles, so that I could sow it to wheat and seed to clover? Give me your idea of getting rid of thistles. This is on a farm I bot last fall.

Macomb Co. P. V.

Without question the best way to rid this land of Canada thistles would be to summer fallow it as proposed in this inquiry. It should be plowed as soon as the thistles have gotten a good start in the spring and then cultivated at least once a week thruout the summer, using thistle sweeps in the place of shovels on the cultivator so as to be certain of destroying every new shoot as soon as it reaches the surface of the ground. By plowing early enough moisture will be retained thruout the season to encourage the rapid growth of these sprouts, which is essential to the thoro eradication of the thistles. No plant can survive a single season if it is not allowed to produce leaves, which are as essential to its life as are the roots from which they spring. Where the land is very dry from the effect of drought, the plants may remain practically dormant for a considerable time without any leaf development, and yet make a vigorous growth when conditions again become favorable, but this is impossible when conditions favor the continued growth of sprouts from the roots, as would be the case in the summer fallow. Of course, there may be seeds in the ground and probably are, that are buried so deeply that they will not germinate, and these will remain to be reckoned with in future years. This is an added reason for allowing the thistles to get well started before plowing the summer fallow, as many of the seeds near the surface will then germinate before the field is plowed. In this way a pretty thoro job of eradicating the pest may be done, so there will be little danger of having thistles in the succeeding hay crop or any considerable number of plants left to contend with in future crops grown upon this field. Thoro work is, however, necessary to success with this plan, as with any other method by which thistles may be eradicated.

While this would undoubtedly be the best plan of eradicating thistles in this case, where the land has been so continuously cropped with oats, it is not at all certain that it would be the most economical plan in every case. This land will be improved in its available plant food content by the summer fallowing process, and the succeeding crop of wheat and stand of clover will show the effect of the thoro tillage of the summer fallow. But in case it is necessary to break up the crop rotation in order to follow this plan it is doubtful whether that course would be advisable. Thistles can be eradicated in any cultivated crop provided it is frequently gone over with a hoe to cut the plants out of the hills as they start, altho this method will be most successful as well as more economical with root crops that require hand hoeing, as the chances are far better that thoro hand work will be done in such crops and less extra labor will be required in their eradication.

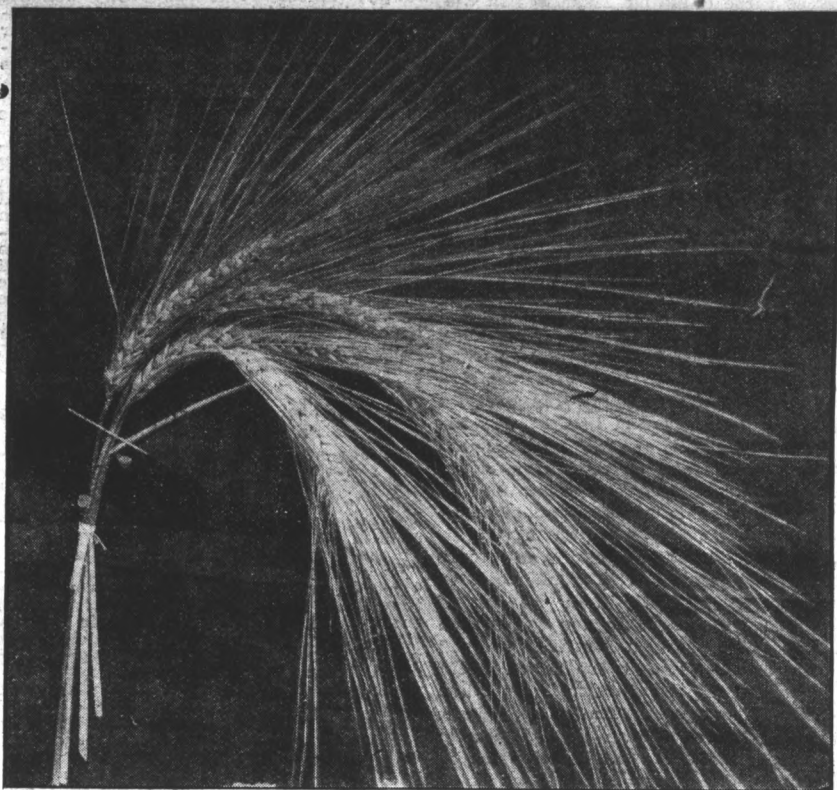
But even in the oat crop or the hay crop the fight against this pest and others of a similar nature, including mustard, should not be abandoned. Modern methods of spraying with sulfate of copper, and in recent years with sulfate of iron, at just the right time in the growth of these weeds, has given excellent results, where the spraying has been done on oat or clover fields. By this method

A FEW LEADING ARTICLES OF THE WEEK.

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the weeds are destroyed or greatly retarded without noticeable injury to the crop. The tendency to let these weeds spread unchecked in many neighborhoods is to be deplored. It is much easier to keep them off our farms than it is to eradicate them after they are once established, but this inquirer is to be commended for taking up the fight on this recently purchased farm. Perseverance will bring success, but the hardest part of the fight will be to prevent other farmers in the neighborhood from allow-

rate of about four pounds per acre, seeding to clover at once and covering seed with a light harrow or weeder. The rape makes excellent sheep pasture during midsummer, when the grass pastures are usually bare. It also makes a good hog pasture and does very well for young cattle, provided some oats are sown with it, and provided sufficient care is taken in getting them accustomed to this succulent feed, as it is liable to cause hoven or bloat. Our experience with this forage plant has led us to believe that it



Selected Heads of Barley.—A Good Start Toward Improvement by Selection.

ing the thistles to seed and thus make the fight a continuous one. At least this is often the case in many neighborhoods.

Seeding Corn Stubble with Pasture Crop.

I wish to seed 20 acres of clean corn stubble in the spring without plowing it. How would you prepare the ground and what would you sow with the clover for pasture? Would you advise sowing clover in the wheat this spring? Also, as the drought of last fall killed most of my clover, what would you advise sowing as a substitute for hay, excluding millet, on sandy loam soil.

Cass Co. J. H. GEORGE.

The writer has seeded both corn stubble and potato ground successfully with dwarf Essex rape, used as a forage crop, many times in recent years. His method is to cultivate and harrow the ground thoroly, to prepare a good seed bed, and sow the rape broadcast at the

is too much neglected by Michigan farmers, especially those who maintain sheep upon their farms. The seed is inexpensive and the forage is very valuable for sheep. It can also be successfully used as a catch crop to be sown in the corn at the last cultivation, with oats to make pasture after the grain crop is harvested and to utilize land that cannot be devoted to the purpose intended for any reason. In fact, we know of no other forage crop which compares with it where it is desired to seed the land to clover and at the same time get a maximum of pasture from it the same season.

The sowing of clover in wheat this spring, or in fact any spring, is hardly a debatable question. Certainly we would advise it. This is one of the greatest advantages of using wheat in the

crop rotation. No opportunity to seed the land to clover without loss of time or additional expense, as it may be done in the wheat crop, should be neglected, no matter how high in price the seed may be, and in a season of cheap seed like the present this too common excuse for neglecting to get clover in the crop rotation as often as possible cannot be made. This is a case where failures should never be allowed to lead to discouragement. We must grow clover if we would maintain the fertility of our soils and assure a future profit in their cultivation. If our soils are already so far depleted that we cannot get a seeding of clover with grain crops we must sow it alone, without a nurse crop on a well prepared seed bed. Clover we must have at any cost, and no favorable opportunity to get it should be neglected.

Peas and oats are the best substitutes for clover where the latter is not available for hay, on soils that are adapted to peas. This crop should be sown as early in the spring as possible and if cut at the right time will make an excellent substitute for clover hay. A larger area may be planted to corn, and with proper cultural methods millet may be utilized to add to the available forage supply for the coming winter. But these substitutes should be used only as necessary in the event of failure with the clover seeding, as they will not replace the latter crop as a soil renovator and improver, nor displace it with profit as a forage crop.

Sugar Beets in the Crop Rotation.

I have a six-acre field of clay loam that was in sugar beets last year. I had thot of putting it into beans this year as there is quite a lot of quack grass in it but some have told me that beans will not do well after sugar beets. What would you advise, beans or corn as I want to keep after the quack grass?

Lapeer Co.

A. H. M.

Probably the cheapest way to clear this field of quack grass would be to summer fallow it and sow it to wheat next fall. Those who have tried growing corn after sugar beets practically agree that it is not a judicious rotation since the corn does not seem to do particularly well no matter if the soil is in a high state of fertility. This is explained by scientists on the theory that sugar beets in common with other roots have a toxic effect on the soil which is unfavorable to the growth of some plants. Beans being a leguminous crop would doubtless be the better crop to use in the rotation after sugar beets but the labor of killing the quack grass in any cultivated crops would be as great as it would have been to have destroyed it in the sugar beets and the probability is that the job would not be done thoroly enough so that you would become entirely rid of it. Then the labor of destroying it by summer fallowing would be so much less than a cultivated crop, where hoeing would be necessary, that this method would probably be the more economical when the increased yield of wheat which could be depended upon by this method is taken into consideration.

Seeding Alfalfa with Wheat.

Would it be advisable to seed alfalfa with wheat as a nurse crop? At what time should the seed be sown? Would it insure a better stand of alfalfa to run over the ground with a harrow after seeding, or would this injure the wheat plant? Would the roots of alfalfa fill the tile drains? Would any particular effects follow the feeding of alfalfa to horses?

Monroe Co.

R. G. V.

As has often been noted in these columns it does not seem practicable to seed alfalfa with a nurse crop of any kind in Michigan altho instances are quite plentiful where good seedings have been gotten in oats or in standing corn. It would be wholly impracticable, however, to sow alfalfa in wheat under average

conditions. Of course, in an especially favorable season a good stand might be secured. It is a good plan, however, and one which is being followed by many farmers who are looking forward to the time when alfalfa may be made a permanent forage crop upon their farms to sow a few pounds of alfalfa with the clover for the purpose of getting the soil inoculated with the nitrifying bacteria peculiar to the alfalfa plant in a natural way. The alfalfa will succeed with the nitrogen stored up by the bacteria in the clover plant, and as some bacteria will be present on the seed or in the soil, it will gradually become distributed over the field. We have known of several instances where alfalfa has been sown upon land previously treated in this way, where good stands have been secured without trouble or without artificial inoculation of any kind. By sowing, say two pounds per acre with the clover seed in the wheat, this desirable result might easily be secured, otherwise it seems necessary in most localities to inoculate the soil or seed with the proper bacteria to insure its success in alfalfa culture. The best method of growing the plant is to sow on a well prepared seed bed where weather conditions favor a quick germination and rapid growth seeding at the rate of 15 pounds per acre without a nurse crop.

Alfalfa can be used as a horse feed without ill effects, provided judgment is used in feeding it.

Seeding Clover in Rape.

I have 20 acres of sandy land that I would like to seed to clover with rape. The land was in corn last year. Would it be better to plow the ground or cultivate it? Would it hurt the clover to pasture the rape with cattle? Can flax be successfully grown in Michigan and what is a fair yield per acre? What kind of soil is best adapted to flax and how much seed is required per acre?

Montcalm Co. SUBSCRIBER.

If the corn ground is clean and fairly free from weeds, it would be just as well to cultivate and harrow it thoroly to make a good seed bed and sow the rape and clover without plowing. It will not injure your chances of getting a seeding materially to pasture the rape with cattle but where it is used for that purpose, care should be exercised not to turn the cattle in when there is a heavy dew or, in fact, make an abrupt change of feed to rape from other pasture, as it is likely to cause hoven, or bloat, in cattle. In fact, cattle should not be confined upon rape pasture but should have access to other feeds which should preferably be sown with it unless grass pasture will be available in connection with it. Oats and a little millet may be profitably used in this connection. Rape is pre-eminently a sheep pasture and is very good forage for hogs and may be utilized for young cattle as above described.

Flax Culture in Michigan.

There is considerable flax grown in Michigan, mostly for the fibre. A moist, deep, strong, loam soil well drained is the best, both for fibre and seed production. Good corn land will be satisfactory land for flax. The soil should be especially well prepared for this crop as it requires plant food in a readily available form to make a profitable crop. Flax seed is sown in the spring as soon as the weather settles and the ground begins to warm up. When grown for seed, from a half bushel to three pecks are sown per acre. Where fibre is the crop desired, from one and one-half to two bushels are sown per acre. This thicker sowing prevents a branching of the stems and produces a better quality of the fibre. Where grown for seed the yield will vary from eight to fifteen bushels per acre. Where grown for fibre, of course, the variation in yield will be considerable depending upon the season and soil.

DISK HARROW FOR NEW LAND.

We are thinking of purchasing a disk harrow and wish the experience of one who has used both long and short tongue. We have about two acres of new land to clear and fit for a crop, land rather stony, and roots not well rotted. Was thinking some of potatoes, but all considered, would it not be the cheapest and better plan to clean off the brush and briars nicely and disk in oats. Oats, we know, are adapted to new land and would cost much less in labor, and at the same time would leave the land in better condition to seed to clover. Our idea being to get this land into meadow with the least possible cost in labor. Now what do you say in regard to the matter as outlined here.

Kent Co. T. LAMBERTSON.

For our land which is practically free from stones and roots, we prefer the tongueless disk harrow to one with the tongue, and we have tried both. It does just as good work and it is easier on the

horses because it does not jerk them as much as the tongue. How a tongueless harrow would work in rather stony, rooty ground, I cannot answer, but I believe if your land is pretty stony and the roots are near the surface, it will be a difficult job to properly fit with a disk harrow, because a disk harrow will bound out of the ground when it strikes a stone that is somewhat solid. If there are many roots in this new land I believe it would be better to fit it with a jumping shovel plow if it is too much work to break it with a common breaking plow. I am inclined to think it will be a difficult job to get it in condition for oats if there are lots of stones and roots unless you do fit it in this way. If there are not too many roots, I should certainly say, break it with a breaking plow, then you will get some soil turned up so that you can prepare a good seed bed either for potatoes or oats. Of course, if you raise potatoes on this soil you won't get it seeded to clover as quickly as if you put on oats, because you can seed the clover with the oats.

COLON C. LILLIE.

SOME THOTS ON ALFALFA.

It is certainly interesting to hear what men from different parts of the state and of different experiences have to say about the growing of alfalfa. While at the county farmers institute in Wexford county I met a man who was so sanguinary regarding alfalfa that he could not say too much for it and of the prospects for growing it in this state. He was talking from experience, having grown it continuously for nearly ten years. Quite a quantity of seed was cut off his place the past year and you could not make that man believe that alfalfa was not to be the great forage crop for Michigan in the near future. I have a sample of the seed grown on his place and it is of fair quality and seemingly of splendid vitality. I also have a sample of seed grown by another man in that county and this is as fine as any I ever saw. It certainly looks as tho there is not much question regarding growing it in that region of the state at least. While at Lansing recently another man was very positive that it was not going to be possible to raise it except to a limited extent and under special conditions and on special soils. We have a great many of these doubting Thomases in the state, but nevertheless I am fully satisfied that the time is not far distant when we will be growing alfalfa practically all over the state. It is but a question of time only when we will have the inoculation for alfalfa so spread over the state that it will not be any longer difficult to get a stand that will be able to survive the first winter after seeding, and if it once does that it will stand the winters thereafter under practically all conditions save that of a heavy blanket. To this end we should sow at least two pounds of the seed to the acre whenever we are seeding to clover. I find that by so doing that a large percent of the seed so sown succeeds in surviving the first winter and then the plants finally get the bacteria developing on them and in that way inoculating the soil of the field. I am satisfied that when so sown the clover acts as a nurse for the alfalfa, feeding it with its surplus nitrates the same as it does with timothy when sown with it. We are told that we can grow more timothy on a given area, when we have clover grown with it, than we can if there is no clover in it, for the reason that the extra nitrogen furnished the soil by the clover plant is so much extra plant food that the timothy gets when the clover is present. The same process ought to obtain when alfalfa is grown with clover and I am satisfied it does by what little observation I have been able to make along this line.

We know that a few years ago it was impossible to get a stand of clover in much of the northern part of the state. But now the crops they are growing on even their lightest jack-pine lands are way beyond anything we can produce in the southern part of the state. We are satisfied that the reason for this is that the land has finally become inoculated with the clover bacteria, so that now it is practically a sure crop. This is the way it is going to be with alfalfa throughout the state. We already know that it will grow on practically any kind of soil and that the principal difficulty in growing it is to keep it from getting wet feet too near the surface. We know by experience during the past season that it will grow in dry weather when practically everything else is standing still. Last summer when the drought was so

severe, our alfalfa was growing right along when all the other clovers and grasses were drying up and dying down, leaving the fields almost pastureless. I had the pleasure of cutting three crops off a one-year-old seeding before September 1, when I could cut but one crop off the clover.

We have numerous farmers in different parts of the state who are laying down large parts of their farms to alfalfa and they find that it is not a more difficult proposition than getting a clover seeding. In view of these facts we should pay no attention to the fellows that say we cannot grow it successfully, for even now while they are saying so there are others who are doing it on practically every kind of soil and in nearly, if not quite, every county in the state. Remember, that if at first you do not succeed try, try again, and in the end you are sure to come out on top. Get the soil inoculated as fast as possible and then the story will be told.

Oakland Co.

E. M. MOORE.

The soil of the experimental farm of the Department of Agriculture at Washington is an ordinary, not over-productive bottom land. To determine the influence of one season's treatment with cowpeas on one area cowpeas were turned under and another similar area of like character was summer fallowed. In the autumn of 1906 rye was sown upon these areas and at harvest time one-half acre was accurately measured and harvested from each of the plots. The plot upon which cowpeas were grown the previous year gave a yield of rye at the rate of 44 bushels to the acre, while the area which was summer fallowed yielded only 30 bushels. The cowpeas increased the yield nearly 50 per cent.

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MANAGING A SMALL FARM.

In a former article, I briefly gave some of the methods which I employ in the management of my farm, which is not a very large one. Perhaps a more minute description may be of some interest to readers who have such farms. In the first place I do not say, or even believe, that my method is the best that can be adopted, by any means. But taking everything into consideration, as regards labor expended, as I stated in a former article, my income is a very satisfactory one. My farm is all fenced off into fields, the largest of which contain nine acres each. The soil is clay loam, and most of the fields are just rolling enough so they are easily surface drained without washing. My general rotation is about as follows: First, I take a field that has been pastured one season and cover this with manure during the winter and early spring. As soon as the grass starts in the spring the sheep are turned into the field where they remain until it is nearly all plowed. After this field is plowed it is fitted and planted to corn. In plowing and doing most of my farm work I use three medium sized horses. I go over all the ground that is plowed each day with a plunker, which has a seat to ride on. By using a plunker in this way, the moisture is retained and the soil is partially pulverized, making it much easier to fit afterward. For this reason I have found a plunker superior to a roller, and much easier handled. In fitting a field for corn I use tools on which I can ride, and also use a marker on which I can ride, so the job of fitting and marking is a comparatively easy one. As I only plant an average of eight acres of corn, I use a hand planter. As soon as the corn is planted, the field is dragged with a fine-tooth steel, lever harrow, on which I also have a seat fitted so as to ride, making the job an easy one. Just as the corn is beginning to come up it is harrowed again. The after-cultivation is nearly all done with a two-horse riding cultivator. When the corn is ready to harvest, I hire a man to help, and cut and shock it by hand which, on this small area, is less expensive than to use a machine. After the corn has stood in the shock about 10 days, I commence husking, doing much of this work myself. By commencing thus early to husk, I am able to get the stalks into the barn before they are much weather-beaten, so they make very palatable feed for the cows, and they eat them up so clean there is no waste to speak of. When the field is cleared of corn in the fall, it is plowed to a good depth, and the dead furrows are opened up at each end, so the water can run off freely. In the spring this field is fitted early and sown to oats. As soon as the oats are harvested, the field is again plowed, and frequently harrowed, especially as soon after every rain as possible. By this method a fine seed bed is formed for sowing the field to wheat, which I usually do the first or second week in September, depending on the state of the weather. A small quantity of timothy seed is sown with the wheat in the fall, and in the spring about eight pounds of clover seed to the acre. This generally gives a good crop of hay the next season, which is usually about three-fourths clover. Sometimes I mow the same field twice but it is generally pastured the second year, after which it is manured and planted to corn. I have found this rotation to work well on my farm, and one that does not require as much expenditure of labor as some rotations that are practiced by my neighbors.

Whenever I wish to find out the cost of any crop, I keep a debit and credit account with the field in which the crop is grown. If the farmer has any boys, it is a good idea to get them interested in this work. It pays to have definite plans laid out for doing the various kinds of farm work. This saves much time and often many steps. And by such planning the small farmer can keep ahead and do more of the farm work himself, and with greater ease, so as not to make a drudge of himself. The small farmer cannot depend too much on hired help, if he wishes to come out ahead at the end of the year.

Ottawa Co.

JOHN JACKSON.

MAKING MAPLE SYRUP AND SYRUP.

At this season a good many farmers are giving more or less attention to the production of maple syrup and sugar. Coming at a period when but little farm work can be done it is looked upon as a

remunerative adjunct to other farming industries. The process of manufacture was first practiced by the Indians in Vermont and learned from them by the early settlers, and it was due to the agricultural authorities of that state, that between the years 1896 and 1904 a research on maple sugar was conducted that was the most complete study of the subject yet made.

Tapping is done from the middle of February to late in March when the nights are frosty and the days warm and sunny, the season lasting well into April. This operation is best performed with a 3/8 to 5/8-inch bit and care should be taken to free the hole from shavings and borings. The larger the hole the more sap there will be for a time, at least, but usually it is desirable not to wound the tree more than is absolutely necessary. Those under 25 years old are seldom tapped as the yield is too small to pay; but once a tree is tapped the process may be continued annually for 40 years without any harm to the tree, provided, of course, the foregoing method is followed.

Generally there are 10 or 15 good runs of sap during a season. The duration of the flow depends on weather conditions, warm days and frosty nights being the ideal. A pound of sugar from each pail of sap is the usual amount, and is amply maintained in practice. The total sugar content of a tree carrying 135 gallons of 3 per cent sugar is approximately 35 pounds.

On account of its purity and freedom from extraneous matter the process of obtaining sugar from maple sap is extremely simple. As the buckets are filled the contents are emptied into a tank from which the sap is led to the evaporator. There is a large iron pan from 10 to 18 feet long, 4 to 5 feet wide, and 6 to 8 inches deep, divided by partitions so that the sap admitted by a tap regulated by a float, takes a devious course before it reaches the far end. As it boils the surface is skimmed from time to time by means of shallow tin skimmers. The incoming sap makes a continuous current thruout the evaporator, and by the time it reaches the outlet is a more or less thick syrup, which, while hot is passed thru a felt strainer. If required in this form it should be poured at once into perfectly clean tins and sealed in order to keep out the air. By evaporating to a density of 1.325, or 11 pounds of sugar to the gallon, about the right strength will be secured and it will not granulate under ordinary conditions. The strength to boil can be gauged by a thermometer. When the thin sap begins to boil its temperature is about 213 degs. F., and as it boils down and becomes thicker the temperature at which it boils rises gradually until it reaches from 235 degs. F. 90 per cent polariscope, and 230 F. would test 80 per cent, and at 253 degs. F. 90 per cent polariscope, and each degree over this temperature approximately one per cent of sugar.

If sugar is desired, a pan smaller than the evaporator is used in which to boil the syrup to a concentration that will crystallize into sugar on cooling. Various methods are adopted to determine when the sugaring point has been reached. The usual test, however, is to pour a little of the syrup on to snow when the finished product should give a stringy or hairy appearance. The pan is then removed from the fire, the mass stirred or dipped until graining begins and transferred to tubs or other receptacles to harden.

Ontario, Can.

J. H. McKENNY.

The Great American Manure Spreader.

Long practical experience and ample facilities, in any line of manufacturing are destined to bring the best results. Perfecting one machine year after year, and being in close touch with the latest improvements on all machines makes it possible for a wide-awake manufacturer to produce the acme of perfection in his own machine. This is true in the case of The American Harrow Company of Detroit, Michigan, manufacturers of the celebrated American Manure Spreaders. This company has been manufacturing Manure Spreaders and other lines of farm implements for the past 27 years. They have made a study of and have employed experts on the subject of fertilizing for years. The American Harrow Company does business direct with the people who use their Spreaders. Buying direct from the factory, you are enabled to explain your needs much more clearly and get them supplied much more satisfactorily than it would be possible for you to do by buying thru a dealer. We can assure every one of our subscribers, fair, square and liberal treatment from this concern. They have been advertising with us for years and we know of thousands of satisfied customers that they do business with every year. Write for their free catalog and mention this paper. Their address is The American Harrow Company, —Hastings Street, Detroit, Michigan.

Farmer Jones Talks On Wire Fence Buying



No. 2—Economy in Fence Buying

WHETHER a fence is economical or not depends on its lasting qualities.

It is well known that I am in favor of all big wires. I have the best of reasons for it.

But the *kind* of wire (I mean the way it is made) is a great deal more important than most people think.

The only kind of wire I would have in a fence is the kind that is drawn from Open Hearth Steel.

That is wire that is solid and tough.

It doesn't have the pores and it doesn't have anything like the sulphur and impurities in it that ordinary wires have.

Right here is the point. Porous wires are quickest to rust. And rust is the great thing you have to fight against in wire fence.

Wire made from steel with sulphur and impurities left in it in the

manufacture do not make good fence for the very same reason. Sulphur and other impurities invite rust. And they enable the rust to eat up the wire a good deal more quickly when it has got started.

What I want and what every fence buyer ought to demand is a wire that has some chance for its life against the elements.

It seems like a foolish thing to say, but I want to suggest to fence buyers that they can't take their fences in out of the weather.

Wire that is pure steel, without pores to fill with impurities and become moist within, is tough and strong and it is long-lived.

You can see, if you are posted on fence, why I am such a strong advocate of the Empire All No. 9 Wire Fence.

First, it is a ready made fence of all big wires. Stretches up straight and plumb. No weaving or making over in the field.

Second, the wires are drawn from Open Hearth Steel. That means that they are tough and solid and are pure steel. Rust—the deadliest enemy of wire fence—has the least possible chance to work on them.

These things taken with two other points—the heavy galvanizing and the way it is woven together so it can't give or slip—make this Empire All No. 9 Fence, in my judgment, the best wire fence in the world.

I look at it this way:

It costs me no more for labor to put up a good fence than a poor one. It costs the same for posts, for post-hole digging and post setting. It really costs less because fewer posts are required. It costs the same for stretching and nailing up the fence.

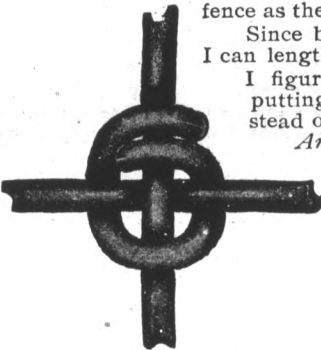
Since it costs as much or more to put up the poor fence as the good one and—

Since by spending just a few cents more per rod I can lengthen out the life of my fence so many years, I figure I am using good judgment and really putting money by when I buy the good fence instead of the poor one.

And this helps some: I buy Empire All No. 9 Wire Fence direct from the factory at factory prices.

You can do the same. Send your order to the makers, the Bond Steel Post Company, 16 Maumee St., Adrian, Mich.

Farmer Jones



It is hard to appreciate the strength and solidity of
THE FROST WIRE FENCE

unless you have seen a string of it already erected. The Frost is the original Coiled Spring Wire Fence, made from Heavy High Carbon Steel Wire and warranted to last a lifetime. The only fence that provides for a uniform contraction and expansion, and consequently the only fence which successfully resists the action of heat and cold. Factory woven and Field erected. Best and cheapest fence made. Free catalog describing Fences and Gates sent on request.

THE FROST WIRE FENCE CO.
DEPT. C, CLEVELAND, OHIO



BROWN FENCE

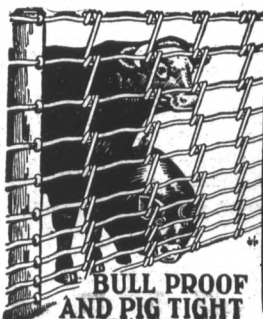
GET OUR FREE SAMPLE which we send for inspection. Test it for strength, stiffness and rigidity, then look to the galvanizing. File it and see how thick that is. We want you to satisfy yourself that for YOU Brown Fence is the best fence to buy for Horses, Cattle, Sheep, Pigs, Chickens, etc. Our fences are made of extra heavy Steel Wire—both strand and stay wires No. 9 gauge.

SELLS AT 15 to 35c PER ROD DELIVERED. WE PAY THE FREIGHT.

Easy to put up. Stands staunch, solid and rigid. Won't sag or bag down. Our prices are less than you would pay for much lighter fences—fences not half so durable. Write today for sample and catalog showing 150 styles.

The Brown Fence & Wire Co., Dept. 49 Cleveland, Ohio.

SAMPLE FREE



**BULL PROOF
AND PIG TIGHT**

SOME POTATO QUESTIONS.

1st. In putting fertilizer on potato land which is best where heavy clover is to be plowed under; to sow fertilizer broadcast and harrow it in, or sow it in the drills with the potatoes? 2—Do you use an automatic power planter in planting your potatoes? 3—Do you think the seed potato cutter is a practical machine? 4—Would you consider it safe to plant seed potatoes that were somewhat scabby if they were treated for scab before planting? 5—Do you think the average commercial fertilizer contains enough potash for sandy soils? 6—The soil here is quite sandy and has not had best of treatment for many years past; would you consider the following rotation of crops on such a farm a good rotation where one does not care to raise oats, only the crops named being desired? The first year, hay; second year, cover with manure and plant to corn, rye to be sowed in corn for harvesting; third year, rye being seeded to clover and this clover being plowed under for potatoes the fourth year; potato ground to be sowed to rye for harvesting the fifth year, said rye to be seeded to clover for hay the following year which is the first year of the rotation. I have five fields of nearly the same size and I have that the above would be a good rotation for them as it contains two clover seedings in a five year rotation. May possibly use some fertilizer for the potatoes as I believe the soil is deficient in potash. The balance of farm is devoted to hog raising and pasture fields. Would you consider it folly to sow clover seed that contained some sorrel seed, said clover seeding to be plowed up for potatoes in June the next year?

Hillsdale Co.

L. W.

Both from actual experience and observation I would recommend the use of fertilizer for potatoes, and that the fertilizer be applied broadcast and thoroly cultivated into the soil before the potatoes are planted. I am not an advocate of putting the fertilizer in the row with the potato seed. Fertilizer should be evenly and thoroly distributed thru the soil where the roots of the plant will get it as they grow. The proper distribution of fertilizer thru the soil is a very important factor in getting results. Then again, unless one uses quite heavy applications of fertilizer for potatoes, I do not believe he will get the results he expects. Two hundred to 300 lbs. of commercial fertilizer will give good results on cereals, like wheat and oats, but my experience and observation is that this amount of commercial fertilizer on potatoes does not amount to much. The potato plant is one that requires an abundance of available plant food. It seems to be a sort of a lazy plant. It will appropriate plant food and get fat if there is plenty of plant food available and close at hand, but it will not make much of an effort to get plant food. Rye, for instance, is a plant that will hustle after the plant food in the soil. You don't have to be so particular about having a large quantity of available plant food. There are many other plants the same way, but the potato plant is different. It must have plenty of available plant food at hand. In other words, a farmer must apply more plant food to get a good crop of potatoes than the plant will use. He must figure on having enough plant food so that the plant will not have to consume all of it, or anywhere near all of it, and then he will plan on the next crop in the rotation taking up more of this food. Unless he follows the potato plant with sugar beets, I should figure that he had used sufficient fertilizer on the potato so that the next crop following in the rotation would need no commercial fertilizers at all. If oats, or rye, or wheat, follow the potatoes, I would put sufficient fertilizer on potatoes so that there would have to be none added for the following crops. Some of the best potato growers in the state of Maine use as much as 1,500 to 1,800 lbs. of good commercial fertilizer per acre on their potatoes. They seed their potato land the next year to oats which is seeded to clover and they get a heavy yield of oats, and a magnificent growth of clover, and this helps to keep the land in proper condition. The New Jersey and Long Island of Jersey potato grower uses more tilizer for potatoes than this, and the Island of Jersey potato grower uses more yet and all of them get profitable crops, much more so than we do in Michigan. The average yield of potatoes in Michigan is gradually growing less. It has got down now to something like 75 bushels per acre of potatoes. And it largely comes from the fact that the potatoes have been depleted of their natural fertility and we do not supply sufficient plant food to get maximum yields.

2. I do not use a horse planter for potatoes and probably never shall grow a large enough acreage of potatoes to warrant purchasing such a tool.

3. I would prefer cutting the potatoes by hand because I like to know just about

the number of eyes on the seed.

4. While we do sometimes plant seed potatoes that show a little scab, it certainly would be better to have them absolutely free from scab, and then they should also be treated for this disease. We cannot take too much pains in trying to overcome this fungous growth.

5. I do not know just what L. W. means by the average commercial fertilizer. For instance, it might be stated that there are two different kinds of formula of commercial fertilizer for different crops. First there is a formula for cereals and grass. This would not contain as much potash as one for potatoes and root crops. Now, my opinion is that the average fertilizer for potatoes and root crops contains sufficient potash. As a matter of fact, my own personal opinion is, and this comes largely from my own experience on my own farm, that the average potato fertilizer contains more potash than is needed. If I had a lighter soil, I might change my mind in this respect, but I should consider that a potato fertilizer that contains from four to ten per cent potash would be sufficient for any kind of soil, using the 4 per cent potash on the clay loams, and the 10 per cent potash on the lighter sands. For potatoes I would recommend using at least 1,000 pounds per acre, thoroly cultivated into the soil and I believe you would get more profit out of the use of fertilizer to use this amount, than you would to use 150 to 200 lbs., because that amount on a potato crop I consider practically thrown away. Of course, you will get the benefit of it in the next crop, but you will get very little benefit in the potato crop.

6. Taking into consideration that L. W. has five fields of nearly equal area with about the same character of soil, I am inclined to think that he has studied out a fairly good rotation of crops, and yet he hasn't given potatoes, which I take is to be his leading cash crop, such a very good place in the rotation. It is too far from the manure. He manures clover sod for corn which is an ideal condition for the corn, but the corn is followed by rye which makes a splendid place for the rye. This is seeded to June clover and then the following June the clover is plowed down for potatoes. Now it is a little risky to plow down clover in the month of June for potatoes. If the season happens to be dry, there will not be sufficient moisture to get a good crop of potatoes. To be sure, one ought to plow the potato ground early and cultivate until time to plant. In this way the moisture is preserved and you can depend upon a good crop even though the latter part of the season is dry. But where the clover is allowed to pump all of the moisture out of the soil until June, and then it is plowed down, should there be a dry summer, there will not be sufficient moisture and it will be risky. And since the potato crop is to be the cash crop in the rotation, if this is not a good crop, it would be rather critical. We want the cash crop a good crop every year, and we want to work to give that the very best place. This young clover, too, will not furnish so very much plant food. It hasn't lived long enough to be much of a nitrogen gatherer. Its roots have not gone deeply into the subsoil as they will where it stands longer and one crop of hay taken. If you could manure this young clover during the winter, the same as you did the clover stubble for corn, it would be much better for the potatoes. However, if you will plow the young clover early in the spring, and then make a heavy application of commercial fertilizer, I think that you can depend upon a good crop of potatoes practically every year. If I could cover clover to be plowed down for potatoes with stable manure during the winter, and then use fertilizer, I would like it better. This would give the potatoes a better chance. There is very little danger in getting the land too rich, either in humus or plant food, for a maximum yield of potatoes. If the manure is spread during the winter on the young clover, I do not believe there will be any danger of increasing the growth of scab on the potatoes from using the manure. As a matter of fact, it remains to be proven that the use of stable manure in any way produces scab. We must have the disease in the ground, or else have the manure itself inoculated with the scab, to have the manure in any way contribute to its development.

7. Of course, I would rather have the clover free from sorrel seed but if I could not remove it, I would sow it. You can easily get rid of the sorrel.

COLON C. LILLIE.

Great Fences

AMERICAN FENCE

Made of wire that is all life and strength—wire that stretches true and tight and yields just enough under impact to give back every jolt and jam it receives.

Made of materials selected and tested in all the stages from our own mines, through our own blast furnaces and rolling and wire mills, to the finished product. Our employment of specially adapted metals is of great importance in fence wire; a wire that must be hard yet not brittle; stiff and springy yet flexible enough for splicing—best and most durable fence material on earth.

To obtain these and in addition apply a quality of galvanizing that will effectually protect against weather conditions, is a triumph of the wiremaker's art.

These are combined in the American and Ellwood fences—the product of the greatest mines, steel producing plants and wire mills in the world. And with these good facilities and the old and skilled employees back of them, we maintain the highest standard of excellence possible for human skill and ingenuity to produce.

Dealers everywhere, carrying styles adapted to every purpose. See them.

ELLWOOD FENCE

Nearly 100 Miles of Anthony

man in one community can erect one make of fence which if strung in a straight line would practically cover the distance from the Anthony factory to Mr. Schenck's Anthony Agency.

The best material that can be bought enters into the construction of Anthony Fence and letters from agents show that dozens of them are selling more Anthony Fence than any other fence. In some cases selling more Anthony Fence than all other fences and in other cases selling Anthony Fence to the exclusion of all other fences. It doesn't take an agent long to learn that Anthony Fence is easy to sell, and that selling a good fence doesn't drive his customers to competitors.

We have printed matter that tells all about Anthony Fence, about the Anthony Knot with which it is tied, about the material that goes into it and about the careful way in which it is manufactured. All this is free and we want you to have it. Improved mechanism handles Anthony wire without injury to the galvanizing, hence Anthony Fence is more nearly rustless than any other fence. Don't neglect to write us for particulars in detail.



Delphi, Ind., Dec. 8, 1908
Gentlemen:—
The Anthony Fence Co., Tecumseh, Mich.
I am a contractor and builder of fencing with several years' experience. My territory in Carroll County on the Wabash River is more or less broken and hilly, but the Anthony Fence will go where others fail and can be erected straight and perfectly over any hill or down steep inclines. The stiff upright stays hold the fence to the proper spacing and the lateral wires are of even length and equal tension making it one of the most perfect fences for uneven land that I know of, or have ever built. During the past three years I have sold and erected more than thirty thousand rods of Anthony Fence, and to my knowledge, I have not one dissatisfied customer in my territory. As long as I can get the Anthony Fence I will use no other as it meets with all the requirements of my business. For myself, I cannot speak too highly of the Anthony Fence Company's method of doing business with the local dealers, nor of the high-class product they manufacture. Yours very truly, H. G. Schenck
Let us know on a postal card who and where you are, and we will mail FREE, a small sample of Anthony Fence which shows the Anthony Knot as it is. The sooner you write, the sooner you get it—send today.

THE ANTHONY FENCE CO.,
19 Michigan St., Tecumseh, Michigan, U. S. A.

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Many designs. Cheap as wood. 32 page Catalogue free. Special Prices to Churches and Cemeteries. Coiled Spring Fence Co. Box 1 Winchester, Ind.

48 IN. FENCE 29c

Best high carbon coiled steel wire. Easy to stretch over hills and hollows. FREE Catalog—fences, tools. Buy from factory at wholesale prices. Write today to Box 68 MASON FENCE CO., LEESBURG, O.

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HEAVY SINGLE WIRE STRONG DURABLE.

The only absolutely successful single strand barb wire ever made.

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We make the most complete line of Field, Hog, Poultry and Lawn Fencing in the country. Write for our new catalogue.

DEKALB FENCE CO., - DEKALB, ILL.
Southwestern Office and Warehouse, Kansas City, Mo.

LIVE STOCK

FEEDERS' PROBLEMS.

Care of Ewes and Lambs.

As lambing time approaches, every careful flock master should make every provision for care for the ewes and young lambs during this critical period. The first essential is that the sheep shed shall be thoroly clean of the accumulated manure and well-bedded with dry straw. Presumably the ewes have had the freedom of the yard during the early months of the winter and the necessary confinement to the shed or stable will be sufficiently hard on them if every precaution is taken to make them as comfortable as possible. A quantity of fermented manure in the shed will give off some poisonous gases which will make it difficult or quite impossible to ventilate the stable in a manner which will be helpful or comfortable to the ewe during the close confinement which will be found necessary during the lambing season. The best plan is to clean the shed out thoroly, drawing the manure directly to the field and spreading it on sod ground intended for corn. Then by frequent bedding, the stable will be dry, sweet and clean at this all important time, thus lessening the danger from losses of young lambs due to infection thru the navel cord during the first days of their life. Also, preparations should be made to have the stable as warm as possible, that is, free from draught. If there are openings thru into the hay mow, they should be provided with doors of some kind. In the writer's stable we use some old binder canvasses tacked on light frames which slide back and forth at the ceiling over the end of the hay chutes. If the King system of ventilation is installed in the barn, perfect ventilation will be insured, but if not, the shepherd will have to exercise a good deal of care in order to have the air pure and fresh but not too cold in the sheep stable. This can be accomplished by opening a door or window on the windward side of the stable which will permit a circulation of air in the stable without making a draught thru it. Gates or temporary partition should also be provided, with which to make individual pens for the ewes and young lambs during the first days of their life. If a lamb is once well started he can take care of himself very successfully under almost every condition but at the start he needs a better chance than is possible when a dam is running loose in a large flock. If another stable is available into which the ewe can be put after the lambs are a few days old, it will provide needed room; at least, provision should be made for temporary pens as above noted. Providing there is more than one drinking fountain in the stable, such pens should be constructed where access may be had to the water at all times, otherwise, a pail of water should be kept in every such pen. Plenty of good feed should, also, be provided including little oilmeal, preferably the pea size cake, a good supply of bran, some roots to provide succulency in the ration, if possible, and some ground oats for use as noted later.

One line of preparation for the lambing season which is too often neglected by flock owners is the careful tagging of the ewes. This is best done by the owner or shepherd, if he is expert with the shears, but in any event should be done under his careful supervision, the safest way being to throw the ewe gently on her side, shear the locks of wool from the leg and udder, then let her get up and throw her gently on the other side, repeating the process. Careless handling of the ewe at his work is inexcusable and is likely to produce disastrous results in some cases. All these preparations being made, the shepherd should be relieved of other duties to as great an extent as possible during the lambing season because his time will be fully occupied even tho the flock be not a large one.

If the lambs are expected during the cold weather of late February or March, the shepherd should plan to visit the stable late in the evening and early in the morning, and during extremely cold weather, at least once during the night. This is not perhaps a desirable job, but it will be found to pay large returns on the time and effort required. The ewe that looses her lamb and goes dry during the summer must necessarily be an unprofitable member of the flock but if proper care has been given the flock

during the winter season it will be found easy to save at least one lamb for practically every ewe in the flock. Substitutions may sometimes be made but only at the expense of a good deal of labor and effort, much more than would have been required to have saved the lamb in the first place.

One thing which should not be neglected is a temporary supply of food for the young lambs dropped by ewes which are not good milkers. A fresh cow should be obtained for this purpose, if possible, but if this is not practicable a plentiful supply of milk should at least be at hand. It may be found necessary to modify this milk somewhat, either by mixing it with milk drawn from a good milking ewe, by reducing it with water or by adding some laxative and possibly a little sugar. Plenty of good rubber nipples should be at hand, with two or three bottles to which they are fitted in chance of need. In this connection a word of caution may well be sounded, in that it is absolutely necessary that the bottles and nipples be kept clean and wholesome. If the lambs are not to suffer from poisonous infection due to the growth of unwholesome bacteria in these utensils they should be scalded thoroly at least once a day, which will obviate such trouble.

Another essential in the preparation for the lambing season which will pay very big interest on the investment is, to provide in one corner of the stable or shed, a lamb creep which will give the young lambs access to a section of the stable into which the ewes cannot get. Then by providing a trough and first putting some bran in it, the lambs will learn to eat this very early in life. A little later some ground oats from which the hulls have been sifted will add to the palatability and nourishing quality of this ration. It will be a surprise to the flock owner who has never tried this plan how much of this grain will be consumed by the young lambs and how they will grow if given this supplementary feed in addition to the milk they get from their dams and the leaves of clover hay which they will pick with the ewes.

If the lamb is started right he will generally grow right. The critical period of his life is the early part of it and every means which will tend to make him more vigorous and thrifty should be used at this time. The gains which will be made by young lambs with proper feed and care will be a surprise to the feeder who has never tried pushing them from the start. The writer has weighed many lambs that gained 5 and 6 pounds a week for weeks in succession, both before and after they and their dams were turned to grass. Two years ago he had one lamb which showed evidence of particular thrift right from the start, which weighed 150 lbs. at five months of age. This, of course, is an extreme case but it is entirely possible to have good lambs of the mutton breeds weigh around 100 lbs. when they are taken up in the fall. They require little feeding on grain to fit them for the market.

While it is true that at this time lambs will not bring quite the price that corn fed lambs will, yet for farmers outside the corn belt we believe this to be by far the most profitable method. The only way to make this early profit certain is to give both ewes and lambs the best possible feed and care during and after the lambing season.

As above noted, the ewes should preferably have some roots to provide succulency in the ration. A few small potatoes will answer this purpose admirably and can generally be obtained if they are not a by-product of the farm. Care should be taken not to feed the ewe too liberal after the lambs are first dropped and before they can assimilate a large quantity of milk but their feed should be gradually increased and the ration should be so made up as to be well balanced and contain plenty of milk producing foods. Little corn, oats, bran and oilmeal will make an admirable ration when fed in connection with roots and clover hay and other bright feeds for roughage. The farmer who has never given his sheep any extra care should make an experiment this year in this direction. If he will do this it is certain that the benefits will be noted and that in future years his ewes and lambs will receive better care and better feed because the better profit to be derived by this method will appeal to every sheep owner. And it is not at all improbable that a successful test with the sheep upon the farm may result in starting similar work with the other stock, thereby increasing present profits materially.

ON ORGANIZING BEEF RINGS.

Any farmer who desires to supply himself and family with a regular supply of fresh meat during the summer season, should join with his neighbors in organizing a beef ring. To those who may not be familiar with this practice, a brief explanation of the modus operandi may be of interest.

The first step is to get sixteen persons sufficiently interested that they will be willing to enter into the necessary contract. This number is advisable, because the carcass can be more satisfactorily divided into that many shares than any other, altho no cast-iron rule need be made in that respect. In order that this form of co-operation should work harmoniously a constitution and by-laws should be drawn up and the necessary officers appointed. The methods adopted in managing these concerns are almost as many as there are rings and are largely controlled by local conditions. The system with which I am best acquainted, is about as follows:

A butcher is appointed, who provides a suitable place for the killing, furnished with a hook for each member, on which each man's share is to be hung. The animal is killed in the evening, and cut up in the morning, each share being weighed and hung upon its respective hook before six o'clock. The hide, head, heart and fat is returned to the owner of the animal who pays the butcher for his services. Division is so made that each member receives a boiling piece, a roast, and a piece of steak each week. Every week the animal slaughtered is weighed and an accurate account kept of the quality each man receives and in case an inferior animal is furnished the owner has to accept a reduced valuation according to a scale of prices decided upon.

In this connection it is the duty of the secretary to act as valuator when the butcher pronounces an animal to be below the standard. He also furnishes to the members, tickets with numbers on, with which they draw lots to decide the order in which they are to supply the animals. When the season is closed, he takes from the butcher's account the quality received by each, and presents to every member a statement of this and the weight of the animal furnished, together with the price per pound of all. If A's animal weighs 400 pounds and he, during the season, received 425 pounds, he must pay for the extra 25 pounds at a certain price agreed upon, if all the beef has been up to the standard. If B furnishes an animal that is decided to be worth five cents per pound, and that of all the others is valued at six cents per pound, he is charged the latter price for all meat received, except the cuts off his own animal which will be charged to him at five cents, and all the other members will be charged at the rate of five cents for B's beef. If a member receives less than the weight of the animal furnished he shall be paid for the amount he is deficient at the rate at which his animal was valued.

Canada.

J. HUGH MCKENNEY.

A RATION FOR HOGS.

I am fattening some hogs eighteen months old. Would ear corn with water be as good as mixed ration of corn and bran, corn and roots, or corn and milk.

Muskegon Co.

GEO. CONLEY.

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are seven months old, ought to be fattened and gotten into market and the sooner the better. I do not believe that it will pay to grind the corn or even shell it or cook it. Simply feed the corn in the ear if you have it. Feed this in a good, clean, dry place and the pigs will take care of the grinding and also the cooking. Sometimes with old corn where it gets exceedingly hard, if it's very close upon the cob, young pigs will have sore teeth from eating it, but this year's corn will have no such effect and the pigs certainly do like it from the cob better than in any other way.

THE IMPORTANCE OF SIZE IN DRAFT HORSES.

In my previous articles on draft horses and draft horse raising which have appeared in the Michigan Farmer, I have always emphasized size. At times I have thought that I said too much about this phase of the matter, almost to the exclusion of the matter of style and conformation. I have said that 100 lbs. will often make a difference of \$25 in the selling price of an animal. I was not especially sure of it then, but now I know it.

A short time ago I was in a section of the state where the farmers make it their business to put this extra one or two hundred pounds on animals. They do it with profit, with big profit. Just today I visited a stable where there was a carload of drafters ready to be shipped to New York. I never saw a finer lot of horses. Every one of them was in perfect condition. Hardly a one weighed less than 1,800 lbs. Many of them were matched teams. They are so valuable that they will be shipped thru by express. Nearly every horse in the load will sell for around \$300.

Every one of these horses have been finished off by farmers. Carload upon carload of thin western horses are gotten in every fall by farmers. Nearly all of these are of the very best quality and of the best breeds. Grays and blacks seem to predominate. Often one farmer will put in thirty or more of the animals. The favorite age seems to be four and five years. Most of the animals weigh 1,500, 1,600 and even 1,700 lbs. in their thin condition. They have to pay for them. They usually go at about \$250, tho I know of thin horses that have gone out at \$300 and \$350. This locality has fitted prize winners for many a great show. An idea of the magnitude of the operations may be gotten from the statement that over five thousand horses are fattened in Wayne county alone.

There is an increase in value of from \$60 to \$100 on every horse that is so fattened. Counting \$70 as such an average the industry brings Wayne county about \$350,000 a year. Not all this is clear profit, yet it affords excellent returns for all feed, with a great deal of actual profit.

In speaking of a matter of this sort the question of soil fertility must not be passed over. Five thousand horses return a great deal of manure. It is to this industry that hundreds of the excellent farms in Wayne county now owe their fertility. Surely all the feed that goes into these animals, returned to the farm in the shape of manure, is bound to produce much better results all around, than by disposing of the same at the elevator.

Clover hay, oats and corn make up the rations. A great deal of cheap molasses is fed in conjunction with these rations. The horses are stabled and kept in during the entire feeding period. They are fed very heavily. This method of feeding combined with enforced idleness, produces great gains, these being nearly always above a pound a day. This method of feeding may well be followed by any farmer fitting horses for market.

Most of the animals are bot in the Chicago market or in the west. One large dealer has one or two regular buyers in the west during the entire winter. In the feeding seasons an auction sale of feeders occurs in Wooster nearly every Saturday. Many of the fattened animals are shipped out by dealers, tho a few of the more extensive feeders ship their own. The better grade of horses go to New York, while the chunks and rougher grades are sent to Boston.

But it is not the profits of the transactions so much as the lesson for the average farmer which I desire to impress upon the minds of the readers of this paper. The high prices which are received for this sort of animals cannot but prove the practicability and profits of keeping large high-grade brood mares

upon the farm. Of course, the investment is large but the profits are in proportion to the investment. The class of horses that are fed show their breeding. Nearly every one of them shows the value of a pure-bred sire. The sire is half the colt. But most of all this feeding industry has impressed upon me the necessity of having an animal ready for market before you sell him. It doesn't seem right for a man to bring a colt to maturity, and then to allow someone else to make from \$60 to \$100 by getting him ready for market. You can do it as well as anyone else. It is simply a matter of plain, everyday feeding, and you can do it as well as anyone else. Don't sell a draft horse until he is fat, and don't be afraid of an excess of avoirdupois.

Ohio.

CLYDE A. WAUGH.

THE FARMER'S DOG.

I have noticed now and then different opinions in print on the farmer's dog, and as he is a valuable help to me I wish to speak a good word for him. I do not know of any animal that has more friends or comes in for more cursing than the dog; but for all this there are farmers' dogs that are a source of profit to their owners. Most of my life I have spent on the farm and have had several dogs, most of them good ones, too. I always like to get a puppy as soon as he is old enough to wean, and do the rest of his bringing up and raising myself. At the present time we have a Scotch Collie male dog that saves us many steps every day; he will go to the field and fetch cows, horses, or sheep, whichever he is sent after, while I am doing my evening chores. This is much easier, especially during the summer months, than to go yourself, or send the tired boy or hired man.

When it comes chore time the dog is always on hand. If you wish to leave a door open a few minutes and it is where stock can get in, just tell the dog to watch it, and there will be no trouble. When the cattle and horses break out into the road the dog proves of great assistance. I do not think I ever appreciated my dog, until the one I owned before the present one, died, and we had to get along two weeks until we could find a puppy. When we went after the cows, they would scatter out and we had to drive them one at a time to get them home. We finally went on horseback, but it was not much better then. We lost enough time in those two weeks we were out of a dog to pay the dog tax for a dozen years. There has been twice, when my dog saved me a horse by giving the alarm at night when the horse was fast under the manger. Chicken thieves are generally a little shy when they know you keep a good dog.

It is with dogs as with other things; there are good, bad and indifferent individuals. The homeless street dog has different habits than the faithful farm dog, because he has different breeding and bringing up. The collies are not only valuable for driving stock, and as watch dogs, but are invaluable in ridding the premises of rats and other rodents that so dearly love your spring chickens.

If you have children, what a companion and care-taker the dog is for them, and how easy it is to put thills in the cart or sled and have the dog draw the children, affording them hours of innocent, healthy, outdoor exercise.

I have heard some farmers say that they never have good luck in getting a good farm dog. It is not luck. It is having a little patience in getting the dog to understand what you desire of him. Dogs, as a general thing, are not deaf, but you would think they were to hear some men talk to their dogs.

It takes some time to get a puppy broken so he will go for stock and drive them slowly, keeping at the heels, but with a little patience, a long rope and a lot of common sense, he will soon learn to know what you want of him and will be eager to serve you.

There are many sheep killed every year by dogs, but this is not done by the farmer's stock dog. It is the half starved tramp and hunting dogs that do the damage. The farmer's stock and watch dog is a different proposition than the hunter's dog that wanders the country over day and night. Each is bred and kept for a different purpose and belongs to distinct classes.

There are many dogs that are not worth their keep, while on the other hand there are many farmers' dogs that money will not buy, they are so valuable to them that price is no object. I think the owner is largely responsible for the

conduct of his dog. If a little kindness is shown him and a little patience used in training him that dog will be one of the farmer's valuable farm animals.

Kalamazoo Co.

W. R. FARMER.

GOOD QUARTERS FOR YOUNG LAMBS.

I have found from years of experience in the sheep business that it always pays to provide good quarters for the ewes when the lambs are young, and cannot take care of themselves. I want to call the reader's attention to an incident that came under my observation only a few days ago when I was visiting a farmer only a few miles away from me, and was looking at his flock of sheep. I saw that he had sheep of good blood, and they seemed to be in very good condition, and I was talking with him and asked him if he was making good money out of them. He said that half or more of his lambs would always die.

I thought that there was some cause for his sheep dying, so I asked the cause and he said he could not tell why, but his lambs were very hard to raise, that he did not have many old sheep to die, but his lambs were giving him trouble. So I thought I would see if I could find the reason for his lambs dying. I asked him where he kept his ewes when the lambs were young, and he took me to an old house that had been a dwelling house, and he was using it for a house to keep his ewes and young lambs in.

On entering the house I was surprised to find things arranged as they were. I found loose planks of all kinds lying all over the floor, and boxes of all sizes, and pieces of boxes, also loose wire, barrels, jugs, and I am not sure what else, as I could hardly tell what was not there.

This man just put his ewes and young lambs in that old house and that they ought to live anyway. The house was a large, square house and had it been cleaned out so they could have had room to move around they might have done very well, as the roof was very good.

I thought a few words of advice might be good for him, so I advised him to clean out that house and he would not lose so many of his lambs.

Of course all, and probably not many, men, do in this way, but there may be others that could benefit by this. I have learned that the young lambs cannot be too well cared for if you are raising them for profit.

Illinois.

R. B. RUSHING.

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Mr. E. H. Wright, of 633 Broadway, Kansas City, Mo., has discovered a process by which he is able to thoroly smoke meat with condensed smoke. The meat will keep sound and sweet indefinitely, and will always be free from insects. He will send a sample bottle free to any one who will send him their name and address with the names of five others who smoke meat. Mr. Wright requests that 10c be enclosed to help pay for postage and packing.

LIVE STOCK NOTES.

There has been a great narrowing in hog prices of late, the spread between the best and the commonest consignments being far less than it was not many weeks ago. With the remarkable falling off in the receipts at Chicago and other western markets, buyers cannot be as fastidious in making their selections as they were heretofore, and after the best consignments are purchased at a good premium, the less desirable offerings are disposed of at relatively better prices than those paid formerly. The inevitable result of marketing hogs prematurely is now being experienced, and matured hogs are so scarce that there is no telling how high they will sell before the top is finally reached. Unquestionably, the only drawback to further advances will be the limit of people's pocketbooks in paying high prices for hog products. Both fresh pork and cured meats are now selling unusually high, and it is evident that consumption has been materially checked for this reason. This will account for the larger stocks of provisions held in western warehouses than a year ago. It is likely, however, that provision stocks will undergo large decreases in the future, owing to the great falling off in the marketing of hogs everywhere and their extraordinary deficiency in weight. The receipts of hogs at western markets for the month of January fell half a million head short of those of the same month last year, while their average weight was phenomenally light. Hogs are mighty good property these times, and farmers are making big profits in marketing them, even at ruling high prices of corn everywhere. There was a time some months ago when the policy of sacrificing immature hogs for the purpose of saving feed bills could be defended, but farmers who do so now are making a serious mistake and are depriving themselves of large profits.

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ARTICHOKES AS A HOG RATION.

I believe that there has been more money made by the farmers of Michigan in the last 10 years in raising hogs than any other live stock crop that is produced on the farm; in fact, most farmers look upon hogs as the home builders. I believe that if the truth were known, it would be found out that more farms were paid for from this one source than from any other. In other words, the hog has been "dubbed" the mortgage lifter, and since the science of feeding is being so closely studied as it is at the present time, it would seem as the hog raising in the future would be more profitable than it has in the past. The whole question of raising hogs hinges on the one word—feed.

How shall we feed our hogs in order to make the greatest gains for the least outlay of money? This brings us back again to the start, and the first question is, when shall we have our sows farrow? Most farmers say in the spring, say about the first of March, and then crowd them to the fullest extent for the next six or eight months. One objection to this is that the hog does not get his growth before he is sold, and they are more liable to disease during this crowding period.

If we can solve the problem of wintering them cheaply, most farmers will agree with me that there is the most money in fall pigs. If they can be brot thru the winter in a thrifty condition they can be made ready for the early market when hogs usually bring the highest price, but to accomplish this end, we must feed something of less value than corn.

Several winters ago I carried over 40 shoats and when spring came they were in fine condition, and this was the way I managed it:

I had one-half acre of artichokes close to their winter quarters, and when snow came I turned them in and then business commenced. I pulled up a few hills so they could see what was under the snow, and the way these shoats dug that ground over was "a caution." In addition to the artichokes, I gave them all the clover hay they would eat, and at night I gave them a small ration of corn. I never saw shoats grow faster.

Now, a word about artichokes. They are something of the nature of potatoes, only they are not of as firm a texture. The stalks grow about five feet in height, and when in blossom they are a handsome sight, as they are a solid mass of yellow bloom. They should be planted as early in spring as the ground will work and given good cultivation. The ground should be made as rich as possible, and at the time of blossoming, cultivation must cease. At this time they should be mulched. Straw is preferable. Let the team go astride the rows and mulch heavily and then the work is done.

Now about the yield. It will be anywhere from 500 to 800 bushels per acre. The ground will be filled with one solid mass of artichokes. All kinds of stock eat them greedily, and horses are particularly fond of them.

After they are once established, it is but very little trouble to care for them. Shut the hogs off in the spring, plow the ground and harrow it level, (there will be plenty left in the ground for seed), and give it a good mulch, and that is all the care it will need. They thrive best on a rich, sandy loam, but will make a good crop on most any soil.

I would also strongly advocate a liberal planting of some good variety of sweet corn that will be in roasting ears by the first of August, and thus the artichokes, a good clover pasture, supplemented with a little old corn and then finished up with the 'sweet corn,' will give a cheap lot of hogs.

The sweet corn should be fed while in a green state, commencing as soon as corn is in good roasting ears. The hogs will chew up the stalks after eating the corn and receive a good deal of benefit from them, and by the first of September, your hogs are ready for market and you have kept the cost down to the lowest point and will have the satisfaction of knowing that you have raised those hogs at a profit.

Van Buren Co. J. S. DRAPER.

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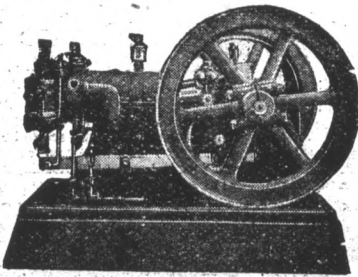
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"I feel that I know the farmer. I know him to be a careful, thinking business man. He's a shrewd buyer and knows a bargain when he sees it. When he understands that he can sit down and write to our factory and get wholesale factory prices on one single machine that are really lower than a big wholesaler can buy them for from any other factory in carload lots—he immediately sees the advantages in buying from us on our plan."

"Our business, in a sense, is a big co-operative proposition. We don't make much on any one implement or any one machine. It's the volume idea that makes our business a success. Another thing that I have found to contribute largely to our success is the fact that we know the farmer to be a square business man and that if he is treated square he will treat us square in return. For that reason we've always been perfectly willing to ship our implements or machines anywhere on a liberal free trial plan. We've said, 'Here you are, Mr. Farmer. Take any one of our machines on your farm—use it as your own—in your own way, and try it out thoroughly. If you are not satisfied in every particular return it to us—we'll pay the freight both ways, and the test you've made hasn't cost you a penny.'"

"We go still further than that, as, for instance, on our Manure Spreader. We say to the farmer—'Take one of our machines and use it for a full year—and then—if you are not satisfied that it is a money-making proposition for you to keep on using, you can still send it back to us, and we'll refund every dollar you've paid us.'"

"We have no secrets in our business. We'd just as soon that every customer of ours would get up a big excursion and come out to our factories and go through and see just how our machines are manufactured—what the actual first cost is to us—just how our little profits are added—so that they may KNOW just exactly how they become a wholesale buyer in dealing with us. Our books are open at all times to every one of our customers—and our factories are open to their inspection."

"Everybody knows the low price we make on our factories' output, but let me explain just why some of these low prices are made possible."

"Take, for instance, our manure spreader. We, just the same as all other factories, have to figure a certain overhead charge on the volume of our business. If we only manufacture 10,000 machines, in order to continue our business we would have to have a certain overhead charge which would make it impossible for us to sell our machines for less than ten dollars apiece more than we now sell them for, on account of the volume of 25,000 machines which is our output this year."

"This same argument holds with our gasoline engines and cream separators."

"Waterloo is a good place to conduct a business such as ours. It's really the center of the United States. We not only do business in Iowa, Illinois and the surrounding states, but we have an immense business in Maine, Florida, Oregon and outlying territory. The highest class labor is comparably cheap in Waterloo. This permits us to manufacture at the minimum of cost. We are never troubled with 'strikes,' never have difficulty in procuring raw material, and, all in all, the conditions for manufacturing our particular line in our present location are ideal."

Mr. Galloway is an enthusiastic, keen, active business man. He knows that his method of doing business is correct. He knows the people to whom he sells his goods—and his motto is—THE HIGHEST QUALITY IN EVERY MACHINE AT THE LOWEST PRICE AND A PRICE THAT UNDERSELLS ALL COMPETITORS."

Mr. Galloway further said that the man who strove to give the biggest value for a dollar in any line was bound to succeed. His entire address was followed with keen interest and at the close he was applauded to the echo.

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ONE IMPORTED BELGIAN BAY STALLION, weight 1,600 to 1,700 lbs.; 1 Registered MORGAN Stallion, chestnut, weight 1,200 lbs. Sell or exchange for other property. H. H. JUMP, Munith, Mich.

VETERINARY

CONDUCTED BY DR. W. C. FAIR,
CLEVELAND, OHIO.

Advice thru this department is free to our subscribers. Each communication should state history and symptoms of the case in full; also name and address of writer. Initials only will be published. In acute cases, where we believe that immediate treatment will be necessary, reply will be made by return mail, free.

Acidity of Stomach in Cows.—Please tell me what to give cows that will prevent them chewing wood. M. S., Ida, Mich.—Give 1 oz. bicarbonate soda, 1 oz. powdered charcoal and 1 oz. ground ginger at a dose in feed two or three times a day for 20 days.

Functional Spinal Disease.—I have a horse that does not have the proper control of his hind quarters, when traveling in mud or snow his hind parts will swing out of line. I do not believe he is weak in back for he appears to be strong, looks healthy and eats all I give him. L. E. R., Parma, Mich.—Your horse suffers from functional disease of the spinal cord and will perhaps recover slowly. Give ½ dr. ground nux vomica, 2 drs. powdered rosin and 2 drs. powdered fenugreek at a dose in feed two or three times a day. In working him avoid overloading, turn him slowly and not too short.

Tape-Worm.—We have a buck lamb eight months old that is very thin—his appetite is not very good. J. P., Cadillac, Mich.—Give him 20 grs. powdered kamala in a teaspoonful castor oil at a dose once a day for two days; ten days later if he is no better give the same amount but only once. Also give a teaspoonful tr. gentian at a dose in a little water three times a day until he recovers.

Fractured shoulder.—I have a yearling filly that fell and broke her shoulder five weeks ago. Had her in sling all this time, since taking her out of the sling she favors the shoulder and I have been obliged to help her up. J. C., Yale, Mich.—I am inclined to believe that you have not succeeded in getting a bony union; the broken bones have slipped past each other and a fibrous union has taken place, which means an imperfect recovery. If this be the case she will never get well—had a bony reunion taken place the shoulder should soon be fully as strong as ever and the lameness disappear.

Splint—Floor for Cow Stable.—My horse has a splint that I should like to have removed. I would also like to know how to arrange a cement floor for my cow stable, and if I use a gutter how wide and deep it should be. H. M. F., Hart, Mich.—After a horse arrives at eight years of age, splints usually reduce in size, therefore I suggest that you leave the splint alone if it is causing no lameness, for they are difficult to remove and not make a scar and hurt the horse. If it causes lameness apply 1 part red iodine mercury, and 8 parts lard once a week, or you can safely use any of the spavin cures that are advertised regularly in this paper. Cement floors are the proper thing for a cow stable. A gutter should not be less than twelve inches wide and eight inches deep; furthermore, in arranging your gutter it should not be too far back, besides it should drain.

Eversion of Vagina—Garget.—I am a new subscriber and would like to know what to do for a cow that has a protruding womb. This cow came fresh about two weeks ago and seems to be all right as long as ropes were on her. Since taking them off the parts protrude. I also have a cow that has a sore udder one quarter being partially blocked. L. S., Jenison, Mich.—Place your cow in a stall where her hind quarters will be six inches higher than fore, keep her in this position while in stable. The parts will then drop into their normal position and she will get well. It may be necessary to apply a surcingle around flank; no drugs required. Sometimes it is necessary to apply a sound. Apply iodine ointment to blocked udder once a day.

Periodic Ophthalmia.—My 5-year-old horse has been troubled for about 18 months with periodical eye trouble. The eyes do not get sore at same time, but change periodically. This same horse is out of condition and his eyes perhaps need a little attention. E. D. N., Galien, Mich.—First of all, the sharp points of outside of upper grinder teeth should be filed off and the inside of lower. If any of his teeth are diseased have them extracted. Give 1 dr. Fowlers solution and ½ dr. iodine potassium at a dose in feed night and morning for 20 days. Feed him some well salted bran mash or vegetables to keep the bowels open. Prevent him facing a bright light as much as possible. He will perhaps go blind.

Lymphangitis.—I have a 10-year-old horse that had a bad attack of indigestion last fall. Our local Vet. brot him thru all right, with the exception of his having a swelled leg. This same horse has a few cracks under fetlock and his skin is chapped on the fore part of one hock. E. A. H., Armada, Mich.—Give your horse 2 drs. Fowlers solution and 1 oz. hypophosphite soda at a dose in feed twice a day for twenty days. Apply 1 part oxide zinc and 2 parts vaseline to sores on leg once or twice a day.

Rickets.—I have two pigs four months old that appeared to be all right until two weeks after they were castrated; now they are unable to stand on hind legs and do not seem to be improving. S. J. Y., Owosso, Mich.—Feed very little corn, a little oats and oil meal, also some vegetables. Give each pig a teaspoonful air-slacked lime at a dose in feed twice a day until they recover. Also apply equal parts aqua ammonia, turpentine and sweet oil to back once a day. If their bowels do not act fairly free give 1 oz.

sulfate magnesias at a dose daily until their bowels move freely.

Conjunctivitis.—We have received so many helps from your answers to others. Therefore, would like to ask what we can do for our Collie dog, who has sore eyes and his ears seem to be inflamed. This causes him to shake his head and his eyes discharge mucus. R. J. S., Quincy, Mich.—Drop 1 part peroxide-hydrogen and 5 parts water into ears twice a day, using a small quantity at a time. Also drop a little calomel into eyes once a day. Also apply a saturated solution of boric acid to eyes once daily. Give him 3 drops oil sandalwood at a dose twice a day for 15 days.

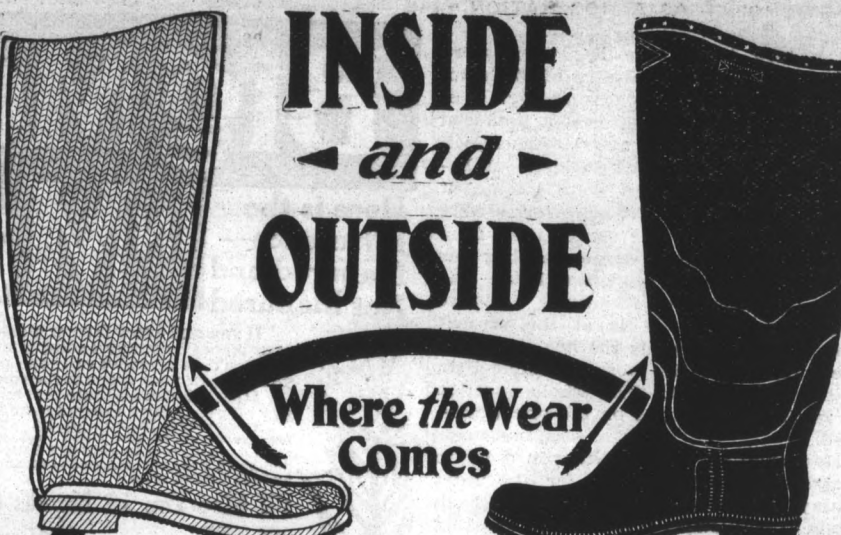
Dog Has Abscess Between Toes.—I have a dog six years old, that is troubled with bunches between toes which appear to swell up then break and discharge pus that has an offensive odor. Are my children in any danger of being infected from this ailment? E. H. S., Brant, Mich.—No, your children are running no risk of infection. Open up abscess with a sharp knife, apply crude carbolic acid to center of sack once only, then apply peroxide-hydrogen twice a day until it heals.

Vaginal Polypus.—Being an interested reader of the veterinary column of M. F., I would appreciate your advice on the ailment of my cow. I have only owned her for a short time and I noticed that she has a discharge from vagina, seems to be a slime with some blood, but it only comes from her occasionally. Is this a serious trouble or not? F. A. S., Whitehall, Mich.—Put 2 drs. permanganate potash in 3 qts. tepid water and flush out vagina three times a week. Also give her ½ oz. powdered sulfate iron at a dose in feed twice a day for 20 days. I know of no reason why she should not make a satisfactory recovery.

Indigestion—Inactive Bowels.—My horse took sick about the middle of December. He was treated by two different Vets. They claim that the nerves of his bowels had stopped working. For nearly nine days he refused food, finally commenced to eat a little. Soon after that he took distemper and has been quite sick. He has a rattling in head, and is not thriving. H. W., Harbor Beach, Mich.—Give your horse ½ oz. tr. gentian, ½ oz. tr. cinchona and 1 dr. tr. nux vomica at a dose in feed or as a drench three times a day until he recovers.

Stomach Worms—Cough.—Can you tell me what is the matter with my hogs? They have good care and are about five months old; sometime ago they began to cough and get out of condition. Their appetite is irregular; I fed them considerable soft coal and charcoal. Have also fed stock food and worm medicine. I do not see as they have improved much, all of which discourages me. They are fed ground oats, barley and corn with some middlings. C. A. R., Jasper, Mich.—Mix equal parts by weight, powdered sulfate iron, gentian, ginger, bicarbonate soda and charcoal. Give ½ teaspoonful to each hog twice a day. I also suggest that you feed them some raw carrots.

Indigestion—Blood Poison.—I have a cow nine years old that was a very heavy milker, but for the past two years she has been failing. Three weeks ago she commenced showing symptoms of sore mouth. She came fresh Dec. 26th last, and I thot cleaned all right, but some time later commenced to discharge. What shall I do for her? M. C. L., Fruitport, Mich.—Put 1 oz. sulfate zinc in four quarts tepid water and wash out vagina every day, using not less than ½ gal. at a time. Also give 1 oz. tr. gentian, ½ oz. tr. cinchona and 1 oz. hypophosphite soda, either in feed or as a drench twice a day for 15 days, then give the medicine once a day for 15 more.



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apron" kind) runs smoothly by interlocking malleable link chain, simplest and strongest. All metal parts of strongest malleable. 5. Every part made at our factory, including our strong special make clinch tire wheels, cold pressed on solid heavy oak spokes into heavy oak felloes. Axles heavy, cold-rolled steel. 6. Guaranteed practically indestructible and absolutely the most satisfactory. Will last a lifetime.



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Remember—"We Always Have To Meet You Face To Face."

Conjunctivitis.—When I drive my mare her eyes discharge a lot of water. She is not sick. L. F., St. Louis, Mich.—The eyes of some animals are extremely sensitive to cold air and dust. Your mare may be one of that kind. Put 3 grs. sulfate zinc in 1 oz. water and apply to eyes twice daily.

Indigestion.—My 4-year-old brood mare is not thriving. She has some bowel pain occasionally. W. S., Uby, Mich.—Change her feed and give her 2 tablespoonfuls ginger and same quantity of baking soda at a dose in feed twice a day, until she gets well.

Sterile Boar.—I have a boar born March 25th, 1908, that is a nice thrifty pig, well developed and seems to serve sows as well as any boar but only one in twenty get with pig. He is not too fat, has plenty of exercise and is fed on corn and milk. What ails him? R. L. F., Scotts, Mich.—Feed him less corn, more oats, oil meal and some vegetables. It is perhaps a mistake to continue using him for breeding purposes, for young animals should be more sure than older ones. Drugs are not much help in such cases.

Periodic Ophthalmia.—I have a horse that is troubled with sore eyes; the eye seems to cloud over after each attack; this trouble seems to yield to treatment but the disease soon returns as bad as before. E. P., Richmond, Mich.—You will find little satisfaction from treatment in such cases, the results are generally the same. However, no one can tell when loss of vision will take place. A bright light always irritates such cases. The bowels should be opened and the diet must be of a cooling and laxative nature. Apply a saturated solution of boric acid twice daily, also give 15 grs. calomel and 1/2 oz. nitrate potash daily for five days when these inflammatory attacks come.

Navicular Disease.—I have a mare that went lame two years ago in forefoot. Have applied blisters and liniments without good results. Now I am at a loss to know what to do. I have that it might be in fetlock joint for the leg is swollen on both sides of joint. Some folks tell me she may have been foundered. J. T., Nessen City, Mich.—I am most inclined to believe that the lameness is in coffin joint and not in fetlock. However, you had better apply equal parts tr. cantharides, turpentine, aqua ammonia and sweet oil to coronet and fetlock twice a week.

Contraction.—My 8-year-old horse went lame last winter. Has remained lame ever since; just as bad on soft ground as hard. I might say we think it caused from contraction. H. M., Pigeon, Mich.—Your horse suffers from chronic navicular disease and contraction as a result of this ailment. Benefit will come from blistering coronet. Apply cerate of cantharides or any one of the blisters that are advertised regularly in this paper, but do not look for too much immediate change, as recovery in such cases will be slow. If the fore feet are warmer than hind apply wet swabs to hoofs in front.

Indigestion and Weakness.—I have a yearling bull that became very lazy last winter. He had lice and I succeeded in killing them, but he was very thin before I found them. Since then he has not done well and is in poor condition now; his appetite is poor. E. B., Pienkney, Mich.—Change his feed and give a teaspoonful tr. nux vomica, a tablespoonful gentian and the same quantity of ginger at a dose in feed three times a day.

Nodular Disease.—I have a last spring lamb that is sick. He seems to have some pain and draws up as if it was in the bowels. I am feeding bean fodder, clover hay and bright oat straw. They are in good condition and I would like to know what ails them? B. T. G., Chilson, Mich.—If you lose another cut it open and examine liver, lungs, kidneys and bowels. If so you will perhaps find many small nodules on outside of intestines that contain a greenish cheese-like substance. These are parasites that cause the death of many sheep in this country. Mix equal parts powdered sulfate iron, gentian, ginger, cinchona and salt. A teaspoonful is enough for four sheep and it should be given in feed twice daily.

Chronic Cracked Heels.—One year ago my horse took scratches. I applied sulphur and lard; this cured him. Last summer he itched and had sores come on neck which caused him great uneasiness; some time later his sores broke open and are yet sore. Subscriber.—You should have given your address and signed your name to your letter. Apply equal parts oxide zinc and vaseline to sore heels twice a day and give him 3 drs. Fowler's solution at dose in feed three times a day for three weeks. If you have some carrots give him a few every evening.

Wounded by a Boar.—Scours in Calves. I have a colt that was wounded by a boar's tusk; the leg was cut above knee some six inches long. This wound does not heal as rapidly as it should. My neighbor feeds his calves separator milk and every one of his calves scours. J. B., Eaton, Mich.—Apply peroxide hydrogen to sore twice a day; ten minutes later dust on equal parts calomel, iodoform and boric acid. Your neighbor had better give his calves equal parts tr. of rhubarb, camphor and opiate, a teaspoonful at a dose in a tea cup of hot water every two or three hours until improvement is noticed, then give less medicine and not so frequent. Do they keep their calves in basement stable and is it damp? Do the calves ever get any sunlight and good fresh air? Their feeding utensils should be scalded and aired daily.

Coffin Joint Lameness.—My 11-year-old mare has been lame in coffin joint ever since she was four years old. I have been told she should be nerved. If so tell me how long it will lay her up, and other particulars that will enlighten me. W. I. F., Delton, Mich.—Removing about an inch of the nerve either above or below fetlock joint on both sides of leg is the only remedy that will make your old cripple comfortable and if it is done she will cease to suffer pain from foot. It should have been done long ago. I operate on a great many and it is never necessary to cast the horse to do

it. The high operation should be done in your case. A 6 per cent solution of cocaine should be injected into leg between skin and nerve; ten minutes later cut skin open and remove not less than an inch of the nerve, sew up wound, do the same to other side and dress wound, all is over. I usually put twitch on nose of horse when operating. The jab from needle of syringe when injecting the cocaine into leg is all the pain the horse usually suffers during the operation for it only requires a few minutes to do it; however, it should be done by a surgeon. The wound will heal in a week in cold weather but takes ten or twelve days in hot.

Indigestion.—My cows runs out in a woodlot for three hours a day when weather is fine, and is stabled when stormy. The other day she came home bloated. I gave her ginger and whiskey, also gave some salts and molasses. This relieved her bloated. Since then she has not shown much disposition to eat and is growing thin. She will come fresh the middle of April. J. H., Barryton, Mich.—Give 1 oz. ground gentian, 1 oz. ginger and 1 oz. powdered charcoal at a dose in feed (or as a drench with water), three times a day.

Scours.—Indigestion. I have a 6-year-old horse that horsemen tell me has indigestion. His bowels are far too loose. I feed him mixed hay and cornstalks for dinner, corn in the ear for grain. M. F., Ferry, Mich.—The corn fodder may be affecting her bowels, therefore I suggest a change of feed. Oats and bran fed dry, also well cured timothy hay will perhaps check her excessive bowel movements. Give her a tablespoonful ginger, a teaspoonful powdered catechu and two tablespoonfuls of charcoal at a dose in feed three times a day.

Periodic Ophthalmia.—I have been interested in your answers to others and would like your advice in regard to a 15-year old mare that went blind last summer but seemingly recovered. Her eyes are again covered with a film. We thought she had influenza last summer but is well now. J. W. B., Canton, Mich.—Your mare has ophthalmia. Blow some calomel into eyes twice a day and give 1 dr. iodide potassium at a dose in feed three times a day until the eyes clear. Good results follow using an eye wash composed of nitrate silver 1 gr., sulfate atropia 1 gr., water 1 oz.; this may be applied twice a day; both have given me good results at my hospital.

Acidity of Stomach.—Cow Does Not Come in Heat.—My cow has an appetite for old bones and pieces of leather; my other cow has not been in heat since cold weather set in. What is wrong? F. C., Sandusky, Mich.—Give 1 oz. bicarbonate soda, 1 oz. ginger and 1 oz. charcoal at a dose in feed two or three times a day. It is not unusual for cows not to come in heat during cold weather and be all right and breed soon as hot weather comes.

Cough.—Have a cow that seems to be healthy, but she occasionally coughs; first noticed it six weeks ago; her appetite has improved lately. W. B. R., Tallman, Mich.—Give 1 dr. powdered opium, 2 drs. chlorate potash and 2 drs. muriate ammonia at a dose in feed twice a day.

Scratches.—Stocking.—My mare has had scratches for the past six weeks and her legs stock. Subscriber.—Give a dessert spoonful powdered nitrate potash and a tablespoonful powdered rosin at a dose in feed twice a day for a week, then give the medicine once daily for ten days. Apply 1 part coal tar disinfectant and 4 parts vaseline twice a day.

Blocked Quarter.—Abnormal Heat.—I have a Jersey cow 9 years old that came fresh last September. She has been almost constantly in heat for the past six weeks; been bred several times but failed to get with calf; this same cow has one diseased quarter which does not milk easily and not more than one-half as much milk comes from it. F. B. R., Litchfield, Mich.—Feed her less stimulating food, more vegetables; also give 1/2 oz. nitrate potash at a dose in feed three times daily until she cools off. It may be necessary to spay her. Apply belladonna ointment to diseased quarter twice a day.

Weak Back.—I have a young mare that has been worked hard for some time that stretches when standing still, and urinates often when idle but not often when worked. R. C. T., Shepardsville, Mich.—Your mare's back is a little weak and it rests her to stretch. Apply alcohol and water equal parts to back twice a day and give 2 drs. acetate potash at a dose in feed twice a day.

Paralysis.—Cow is unable to get up without help and wabbles when walking, due to calve in ten days. F. A., Mayville, Mich.—Give her good care, a teaspoonful tr. nux vomica three times a day and keep her bowels open, also apply alcohol to back twice a day.

J. M. Couch, of central Iowa, marketed 345 head of fat Utah range lambs in Chicago recently at \$7 per 100 pounds, making a liberal profit on the flock, which he purchased last autumn and fed during the winter. They cost him at Earlham, in the fall, \$4.25 per 100 pounds, when they averaged 48 pounds, their average weight when sold in the Chicago market having been around \$7 pounds. About 15,000 sheep and lambs grown on the Utah and other western ranges were fed around Earlham this winter, and about three-fourths of them have been marketed, their owners making substantial profits as a rule. To begin with, prices were low when the lambs were purchased as feeders, and in the next place they were fed carefully, and had good shelter. They had plenty of ear corn and clover hay.

Cured Spavin and Old Sprain on Arm. I used Gombault's Caustic Balsam for a spavin, curing it entirely and leaving no marks. I also used it on my arm for an old sprain. It took some months to effect a cure, but it is now cured. It is the best remedy I have ever used. It is hard to get people not to waste it by using too much.—J. D. Rodger, Elm

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THE DAIRY

CONDUCTED BY COLON C. LILLIE.

25th ANNUAL MEETING MICHIGAN DAIRYMEN'S ASSOCIATION.

This meeting, held at Grand Rapids, February 17-19, was all that was expected by its officers, and more. There was the largest attendance and the greatest display of dairy machinery and supplies of any meeting in the history of the association. Many persons outside of the state were there and all pronounced it a great success. Many remarked that the exhibits were second only to the exhibit at the National Dairy Show at Chicago.

The opening session at Press Hall was well attended for the first meeting. Misses Wilson and Magill gave an instrumental duet, and Mr. Wort, instructor in physical culture of the Y. M. C. A., offered prayer.

Mr. E. A. Stowe, ex-president of the Grand Rapids Board of Trade, read a very interesting paper welcoming the association to Grand Rapids for its 25th annual convention. Mr. Stowe was the first secretary of the association and served for seven years. He told about the organization of the association and of its early struggles. He said even he did not dream that the association organized 24 years ago, would develop into the great and influential association that we have to day. Mr. Stowe said the association was more than welcome to Grand Rapids, and he hoped it would come again.

Hon. T. F. Marston, of Bay City, responded to the address of welcome with a few well chosen words, thanking the people of Grand Rapids, and also Mr. Stowe, for the kind welcome.

President Lillie then read his annual address, which was well received. In full it was as follows:

Members of Michigan Dairymen's Association, Ladies and Gentlemen:—

I take great pleasure in greeting you here today for the occasion of the 25th annual convention of our association.

The past year has been withal a fairly prosperous one for the industry we represent. Altho not as prosperous as the price of butter and cheese would seem to indicate, because the cost of production—the price of feed, labor, and of living for the dairy farmer—has increased quite in proportion to the price of dairy products. Many think the cost of production has increased more in proportion than the price of dairy products. In this respect the producer of butter and cheese has fared better than the producer of market milk. For some reason not readily given, the price of market milk has not advanced in proportion to other dairy products, and in a majority of instances the milkman is receiving the same old price for his product that he did when feed, labor and the cost of living were less.

In our business, like all other kinds of business, some are making a good profit and some are making scarcely no profit at all. It is estimated that the total value of all dairy products in the United States for the past year is over \$800,000,000, and it is safe to say that the cost of producing this vast amount of dairy products was entirely too much. On the average the dairyman doesn't get the profit he should. And it is the object of this association to discuss ways and means or bringing about greater prosperity for the dairy farmer.

The dairy industry may be divided into three great divisions:

1st. The production of the raw material—milk—or dairy farming.

2nd. Manufacturing this raw material into the finished product—butter or cheese—or preparing it for direct consumption.

3rd. The selling of the various products.

Our greatest opportunity lies with the producer. Here is where our help is most needed; and by helping the producer we help the manufacturer and the commission men. I assume that both the manufacturer and the commission man are making a fair profit now, and in fact, practically all the profit they can make; unless they can assist in helping the producer to make greater profit, thereby stimulating him to increased production. The fundamental principle of our association is that no division of the dairy industry can prosper permanently unless all divisions do. Some states have separate associations for members of the different divisions and seem to think that

their interests are separate, but we believe that the interests of all divisions are mutual and can best be subserved by working hand in hand for the development of the entire industry. This is why we have congregated here this week. Dairy farmers, buttermakers and cheese makers and manufacturers, and commission men, our interests are common and we want the most cordial relations to exist between the members representing the different phases of the industry.

Dairy Farming.

Dairy farming is a broad, complicated and interesting subject. I can only touch upon it in a general way.

By a better understanding of soils, fertility, rotation of crops and farm management the average dairy farmer can produce crops for one-third less money than he now does.

By proper combination of these foods and more careful and liberal feeding and proper care, the average dairy farmer can produce milk or butter-fat for one quarter less money than he does today.

By proper selection and intelligent breeding, the average dairy farmer can double the annual production of his cows. The average annual production for the cows of the state is said to be around 140 pounds of butter fat, while there are many herds producing 300 to 500 pounds and more.

Co-Operative Cow-Testing Associations.

Co-operative cow-testing associations are proving to the dairy farmers that it pays them better to feed the crops which they grow on their farms to their cows than it does to sell these crops off of the farm. The records of some 1,200 cows in four different communities show on the average the farmers received \$1.85 for every \$1.00 worth of feed at market prices fed their cows. This will surely stimulate farmers to do better work, for only men who do well strive to do better. The cow-testing associations put dairying on a business basis and cannot help but create interest and enthusiasm in the business.

Auxiliary Dairy Meetings.

The auxiliary dairy meetings of this society carry dairy enthusiasm into the very midst of our dairy farmers and are more helpful in improving production, or dairy farming, than our annual meetings. Hence I want to see these meetings kept up and their influence extended.

Improving the Quality of Dairy Products.

Improved quality of dairy products means much to every phase of the industry. We are all, as well as the consumer, much interested in clean, wholesome milk, butter and cheese. For quality the dairy farmer is almost entirely responsible. The farmer is blamed for much he ought not to be and I would like to find some one else to lay this question of quality to; but I am unable to do so. It rests upon the farmer's shoulders almost entirely. The foundation for quality is clean milk, and the farmer is alone responsible. If he produces unclean milk, it means poor butter, unwholesome cheese, and sick babies. The farmer is to blame for it and must pay for it because it means lessened consumption and reduced prices, while the cost of manufacturing and selling is not reduced, but rather augmented. If all the milk produced today was clean milk, there would not be enough of it to meet the demand—people would consume so much more milk, butter and cheese.

When farmers come to realize the importance of clean milk it is a simple matter to produce it. It simply means clean barns, clean cows, clean milkers, clean dairy utensils—that's all. Don't let the dirt and filth get into milk, and it is clean, and it means much more to the farmer than he seems to realize. Every member of this convention should consider himself, or herself, a committee of one to preach the gospel of clean milk.

Manufacturing of Dairy Products.

The manufacture of dairy products is in a high state of perfection. Science and invention have done much in this department of the dairy industry. The creameries and cheese factories of Michigan are doing, on the average, good work. The butter and cheese exhibited at the educational scoring tests shows very conclusively that there is a marked improvement in workmanship. The buttermakers and the cheesemakers are making good. They cannot make a good article from a poor product, tho many of them are manifestly sufficiently skilled to make the finished product an improvement on the quality of the raw material. I do not wish to say that we have no poor buttermakers, or poor cheesemakers. We have too many of them. Some

still make by "the rule of the thumb," but many are earnest, conscientious, up-to-date; studying conditions with an idea to overcome them as far as possible. Most of our factories are in good shape, fairly well managed. Some are not equipped with improved machinery and appliances as well as they should be for best results, but there has been great improvement in this direction of late.

The greatest need of our factories to improve the quality of the output is an improved quality of the milk and cream received. The attention of the factory should be directed to this question, and a campaign begun to improve the quality. The greatest good can be accomplished in the shortest time by grading the cream as it is received and paying for the same according to quality. It takes some moral courage to do this, but it should be done.

Business organization is necessary for this. One factory can accomplish but little alone. But with a good factory organization in a given section, the work can be accomplished not only to the benefit of the manufacturer, but to the great benefit of the producer. Organization is necessary for the benefit of both manufacturer and producers in another direction. Factories are put to great and unnecessary expense in delivering cream because they persist in going into each other's territory. Territory should be divided and increased business secured by the encouragement of more intensive dairying. Farmers should be interested in this question because increased cost of delivering is paid for by the farmer in the final analysis. This question should be discussed with patrons and arrangements made that will be satisfactory to all.

The Selling of Dairy Products.

In selling the dairy products, the idea should be to get as close to the consumer as possible. Large factories can distribute to retailers direct and save the wholesale commission. Where the output of a factory is too small to warrant this extra expense, the factories of a given section could co-operate for this purpose, making goods of a uniform quality and distributing thru one sales agent. In this way the factories could receive more for their product. An organization of factories could hold goods in cold storage just as well as a commission house, and hold their customers the year thru.

Certified Milk.

Certified milk should be controlled by law in this state. At the present time anyone can sell common, ordinary, market milk for certified milk and there is no one authorized to interfere. We should have a law defining certified milk and placing the sale under the control of the Dairy and Food Commissioner, or some other responsible authority, whose duty it shall be to see to it that the consumer is getting what he pays for.

Ice Cream.

Ice cream should also have a standard fixed by law. Much of the product sold under the name of ice cream contains but a small per cent of cream. The national food and drug act fixes the standard at 14 per cent butter-fat. Many ice-cream manufacturers contend that this is too high. Be that as it may, the consumer and the dairymen should have protection in this product. Frozen skim-milk and gelatine, corn starch and eggs does not make ice cream and ought not to be allowed to be sold for that product. We have no particular objection to people buying such a product if they know what it is. But we, as dairymen, are interested in not allowing the public taste to be educated to believe that our delicious cream when frozen makes that sort of a product.

Oleomargarine.

Oleomargarine is out for another fight and the dairymen of this land and the consumers should join hands in this fight and see that it results in another defeat for the oleo combination. There has lately been introduced into the National Congress a bill which has for its purpose to destroy the effect of the Grout law. The oleo interests, of course, are back of it and they hope to win by creating a sentiment among business men and consumers favorable to their interests. They call the Grout law the "farmers law" and claim that it was passed solely for the benefit of farmers and dairymen. This is a misrepresentation. It was passed more for the benefit of the consumers than for the farmers. Farmers are benefited only indirectly. The object of most food laws is to prevent deception, to protect the consumer against fraudulent articles of food, and the so-called oleo law is no exception.

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What right have people to color tallow to resemble butter? Why do they want it to look like butter? Simply to deceive and defraud the purchaser, the consumer. If oleo is as good as butter, why not sell it as it is and take the market away from the dairymen? People say oleo is better than poor butter. I will agree to that, but it does not compare with good butter, and never can, and the oleo people realize it. Oleo can be produced cheaper than butter. It is not as good as butter and it should be sold for less money to the consumer than butter; and besides, people are willing to pay more for butter than they are for oleo. The only way that oleo can be sold for butter prices is to deceive the people and make them believe they are buying butter. Hence, the law is primarily to protect the consumer.

But oleo interests claim that if the dairyman is allowed to color butter, the oleo manufacturer has a right to color tallow. That is not reasonable. The dairyman does not color butter to deceive the consumer. He does not claim that it is something else after it is colored. In fact, he does not color butter produced under natural conditions in the summer when the cows have green grass for a food. That butter is colored naturally. The dairyman colors butter made when the cow is fed dry food, simply so all butter will be uniform in color. If the oleo manufacturer wants his product to have a color other than its natural one, why don't he color it green or pink. No, he must take the trade mark of butter, solely for the purpose of deceiving and defrauding his customers. People are coming to understand these matters better than they used to and, in my opinion, the campaign of the oleo manufacturers will not accomplish its purpose. People will not now be deceived by paid "ads" in the cosmopolitan press and trade papers misrepresenting this question. They begin to realize that this law is primarily for the protection of the public and they will not allow Congress to repeal it, for if it is done, a body blow will be struck at all pure food legislation. I don't believe personally in taxing colored oleo 10c a pound. I would prohibit absolutely the coloring of oleo in imitation of yellow butter. That settles the whole question, protects the consumer, and does justice to the dairy industry.

Recommendations.

An association matter of considerable importance should be decided once for all at this meeting. For a number of years many of the members of this association have felt that the secretary is not entitled to a salary from the association and also the money received from advertising in the annual program book. As an association, we have not sufficient revenue to do the work that we wish to do and should do. Yet the secretary, in addition to a fair and reasonable salary for the work he does, receives annually several hundred dollars additional from the sale of advertising space in the year book. Yet if it was not for his position as secretary of this association, he could not get one dollar of it.

Two years ago, at the annual meeting at Saginaw, the committee on resolutions offered a resolution granting an increase of salary to the secretary and requesting him to turn the money received from advertising over to the association as part of its funds. This resolution was passed unanimously. Yet the secretary has never complied with that portion of the resolution pertaining to money received from advertising, altho he accepted the increased salary. Now, in my judgment, it should be thoroly understood by the incoming secretary, whoever he may be, that this money received from advertising belongs to the association and not to the secretary personally, or this resolution should be repealed forthwith.

Our fiscal year ends June 30th of each year. Our financial statement must be for the year beginning July 1st, and ending June 30th. It would be better in many ways to have the term of office of the various officers begin and end with the fiscal year. This would give the old secretary the opportunity of completing the records and editing the annual report. We are also in the habit of holding one or more auxiliary meetings in the spring after the annual election of officers, which meetings many times have been arranged for by the old officers. It would allow all officers to complete their work before they went out of office. I would therefore recommend that the by-laws specify that the terms of the officers elected at this and future annual meetings shall begin on July 1st following

such election, and expire on June 30th of the next succeeding year.

In conclusion I wish to express my thanks and appreciation for having been your president for four successive years. I have enjoyed the work very much and I have tried always to work for the best interests of the association. The time has now come, however, when I feel that it would be well to pass this office to some one of the many able and worthy members of our association who will give of his time and energy sufficiently to carry on the good work and make our association a still greater factor in the further development of our great industry. It takes considerable time and energy to do the work as it ought to be done, and I feel that I have done my duty in this respect and that I have sufficient work in other directions to take all my time. Pass the honors and the work along.

While I no longer desire to be your presiding officer, I do desire to continue to be one of the working members of the society, always willing to do all that I can for the best interests of the association.

Secretary-Treasurer Wilson read his annual statement of the condition of the finances of the association. His report was referred to the board of directors.

The Cheesemakers' Session.

The Wednesday afternoon session was given over to the discussion of topics of particular interest to commercial cheesemakers. The session was pleasantly opened with music by Misses Wilson and Magill.

"Side Lights on Cheese Making," was the first topic on this program, this being the subject of an address by U. S. Baer, secretary of the Wisconsin Cheesemakers' Association. As an essential to successful cheese making Mr. Baer urged the use of commercial starters and close attention to all the details of the process. He is of the opinion that quality in the product depends more upon close attention to details of the work than any other one thing. He believes the curing of cheese in cold storage to be essential to the development of a proper flavor in the product, and asserted that the best flavor could not be secured in any other way.

"The Necessity of Using Commercial Starters in Cheese Making," was the next topic and the subject of an excellent talk by E. A. Haven, State Dairy Inspector, of Bloomington. Mr. Haven strongly advocated the use of commercial starters in cheesemaking as the only successful means of securing uniformity in the product. In fact, he declared this to be the principal object in using commercial starters. A uniform quality of cheese can be made in no other way, in Mr. Haven's opinion, nor can the best flavor be secured without the use of starters. Under ordinary factory conditions, where a commercial starter is not used there may be a great difference in the quality of the cheese made on successive days and a corresponding difference in the flavor and texture of the product. The use of commercial starters is a means to the desired end of overcoming this tendency to variation in the product and to secure a desirable degree of uniformity in the output of the factory.

"Making Soft Michigan Cheese with a Curd Mill," was the subject of an address by L. R. Sigafosse, of Montgomery. This speaker is strongly in favor of the use of the curd mill in the making of soft Michigan cheese as a means of controlling the quality and uniformity of the product, thus systematizing cheesemaking and reducing it to a more exact science with more certain and uniform results.

An animated discussion followed the different numbers on this interesting program, which discussion fully substantiated the contention of all the speakers that the modern methods of manufacture which they advocated gave the best results in the uniformity and desirability of the product.

City Milk Supply Session.

Considerable time was taken up at this session by the reports of committees and resulting action in the adoption of new by-laws by the association. After considerable discussion the new by-laws reported by the committee having this matter under consideration were adopted by the convention. These included several changes, notable among which were those recommended by the president in his annual address, making the term of the officers, like the fiscal year of providing for the publication of the annual program under the direction of the board of directors, the receipts from the sale of advertising space in same to go into the funds of the association, instead of to the secretary. A provision was also

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At the present time we are not agents for any hand cream separator, but for the future good of our own business as well as the dairy industry, we are naturally anxious to see every dairyman who buys a hand separator buy the machine that will prove the best investment in the long run, and wide experience has taught us that when it comes to efficiency, durability and hard knocks the De Laval Hand Cream Separator easily stands in a class by itself.

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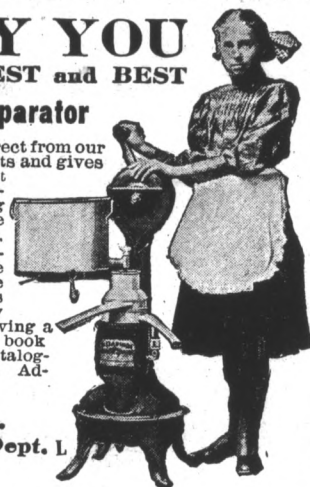
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The Michi an Farmer, Detroit

added to the effect that nominations as well as elections of officers of the association should be by ballot, the three candidates receiving the highest number of votes on the nominating ballot to become candidates for election.

"Past, Present and Future of the City Milk Supply," was the first number on the program proper for the afternoon, a transposition of the numbers as printed in the program having been made to permit the use of the stereopticon with the last number instead of the first. Mr. Probert presented a vivid word picture of the milkman of the old days, who drove up to the door in his old rig, rang his bell at the gate and waited for the busy housewife to come out and wait on him, when he dipped her daily milk supply out of the can he carried and which often contained a product that was far from wholesome, except the portion which it was sometimes charged, he produced by the aid of the pump. Today the city milk supply as described by Mr. Probert, is of an entirely different character and delivered in an entirely different way. It is hedged about by many safeguards. The milk peddler is licensed by the city and by the state, and his product is subject to frequent inspection by municipal and state authorities, and not only his product but the premises upon which it is produced as well. And yet, with all the improvement which has been marked in this industry in recent years, the speaker pointed out that only a beginning has been made in the progress which is needed and which is surely coming along this line. While the city milk of today is delivered at the door or into the ice box in the city home, put up in glass bottles and is a much better product than was available a few years ago, yet there is much to be desired in the way of improvement, and sufficient milk of the best quality cannot be secured to satisfy the demand in our cities. He pointed out that the cow is rapidly becoming the foster mother of the children of our country, and that man can engage in no more noble occupation than the furnishing of the most wholesome and healthful milk for the nourishing of their bodies and the development of their intellect, nor in a more reprehensible business than the furnishing of an unwholesome or unclean milk product for a similar purpose. While Mr. Probert declared that the dairyman who is in the business of supplying milk to the city trade has hard pegging, yet by furnishing a good product at a fair price he can both help himself in a business way and prove a public benefactor.

"Certified Milk," was the subject of an exceptionally able paper by Mr. Lewis B. Hall, of Grand Rapids. Mr. Hall defined certified milk as milk, the purity of which was certified by medical associations, and that while a good many people look on it as a fad, it means something. He gave a brief history of the progress of the certified milk business from a small beginning at Newark, N. J., some years ago, until today certified milk is obtainable in all of our larger cities, and stated that while there are plenty of people to be found who are constantly discrediting a good product, yet they are generally people that don't know anything about the proposition which they are "knocking." The physicians who pass upon the quality of the certified milk product have no financial or other interest in the proposition, except as they have a natural interest in the fighting of disease and its sources, but Mr. Hall provoked considerable laughter by saying that he could not deny that the physicians did get a rebate on the milk they use, adding that they get milk for ten cents a quart that is well worth 12 or 14 cents, the same as everyone else that buys certified milk does. Mr. Hall explained that under normal conditions the milk used in the country family is consumed before it is 12 hours old, while of necessity the milk which is consumed in the city is from 24 to 36 hours old, unless the "true kings and queens of the world, the farmers and their wives," arise at an unseemly hour in order that the city people might have a fresher product. He urged, rather, the production of a better and cleaner product that would keep until used under present conditions, adding that while cleanliness is generally accepted to be next to Godliness, in the case of milk production cleanliness is Godliness. In the dairy business almost right is altogether wrong, and he advised the man who would go into the production of certified milk to make his friends at a distance a last farewell visit, for while he remained in the business he would never have another opportunity to visit them, provided he

gave that close attention to the details of the business which would insure a good, wholesome product. In closing, Mr. Hall assured the dairymen present that they would be welcomed at Hall Bros.' farm to look over their plant at any time during visiting hours.

"Improving the Market Milk Supply," was the topic of a very interesting illustrated lecture by Mr. Iven C. Weld, assistant in market milk investigations, Washington, D. C. Mr. Weld started out with the assertion that he had found in the course of his investigations that fully 28 per cent of people in the large cities of the country were not now using milk as a beverage or food that would use it as such in case they were satisfied that the available product was clean. A chart was shown comparing the death rate of infants reared on cow's milk with that among infants that are nursed in the natural way, showing a wide difference, especially in the summer months, when in the heat of the season the mortality among the bottle-fed infants reaches the appalling proportions of one in four. The responsibility of such conditions must be fixed largely on the producer, a fact which the speaker proceeded to illustrate in a clear and comprehensive manner. He illustrated by means of lantern slides the many various ways in which contamination of the milk supply will occur as ordinarily handled on the average farm. The rapidity with which colonies of bacteria are produced by small causes, such as the presence of a hair in the milk, as shown by the views presented with this lecture, is most surprising, while the views presented of conditions about barns and stables where contamination was shown to occur were such as can be duplicated in thousands of neighborhoods in Michigan as well as elsewhere. In comparison with these scenes, others were shown where desirable conditions prevail for the making of a clean product, which had been selected with a view of demonstrating that an expensive outfit is not necessary to the production of a good article. A case in point which was of particular interest was noted in the illustration of the buildings of a Kentucky farmer who is engaged in the production of certified milk in a plant of very ordinary appearance on the exterior, but which is a model of cleanliness on the interior, the interesting feature of his case being that he lost two children thru his careless methods of producing milk before he cleaned up and went into the certified milk business, the incentive which moved him to take the step being that he might save others from the loss which he had suffered as a result of his own carelessness.

Mr. Weld closed with an appeal to his hearers to produce a better product, assuring them that it would sell for a better price. But he also deprecated the excuse which is so often made for not producing a better product, the old excuse that, "if we only got a little better price we could afford to clean up and produce better milk." He stated that he had heard this excuse among the farmers of Pennsylvania, where they are getting but a little above two cents per quart for the milk sold for the Pittsburgh market. He had heard it again in Massachusetts, where the farmers adjacent to Boston are getting around four cents per quart for the milk which supplies the Boston market. And he had heard it again in Virginia, where the farmers who supply the milk for the Richmond market at practically six cents per quart still said, "if we could only get a little better price we could afford to clean up and produce a better quality of milk."

Altogether, this was a most interesting and entertaining lecture, as indeed was the whole session, and while it was designed primarily for a discussion of problems which are of particular interest to the milkman who is selling market milk, yet the subjects were of engrossing interest to every dairyman present, since no matter what disposition they make of their product the same rules must be observed in its production if the article produced is to be one which will command a high price on the market or which can enter into the manufacture of an article that will fill a similar demand as to quality.

Exhibitors' Session.

Not the least interesting forenoon of the meeting was devoted to an examination of the exhibits in the annex provided for the exhibit put up by the supply men and for the monthly scoring contest conducted by the State Dairy and Food Department. This exhibit was generally conceded to be the best one of the kind ever made in connection with the annual

meeting of the Michigan Dairymen's Association, of which it has come to be a regular feature. The large building devoted to this exhibit was taxed to its capacity, the booths in which the exhibits were made being tastily decorated, while souvenir badges and mementoes were much in evidence. Aside from giving an opportunity to those present to view the exhibits at leisure, the devoting of the morning to this purpose gave those present an opportunity to renew their acquaintance one with another, and thus to make stronger the feeling of good fellowship and mutual interest which should characterize an organization of this kind. (Continued in next issue).

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For **1909**
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retain all features that have given them their great reputation for durability and efficiency, and have several improvements that make them even to a greater extent than ever before, the ideal machine for dairymen who are posted and who demand the best. And by intensifying the circuitous and tortuous currents of the milk in its passage through the separator bowl, we have been able to
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Sales agents in nearly every dairy section. If no agent in your town, write direct to us for Catalog No. 111 and we will also quote prices. We have distributing warehouses in every dairy section in the United States and Canada.
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THE FERTILITY OF THE DAIRY FARM.

Dairy farming properly conducted will build up the fertility of the farm faster than any other branch of general farming; but the up-to-date dairy farmer must abandon old and unprofitable practices and introduce new and improved methods of handling his soils. We dairy farmers have been victims of the ignorant belief that the fertility of our farms is dependent upon the number of cows that we are feeding and the amount of grain foods and commercial by-products that we have been buying and feeding to our cattle, regardless of the uses we have been making of the manure resulting from their feeding and the methods of cultivation, renovation, rotation and fertilization that we have been practicing for years.

To make a fetich of the manure heap and feed thirty-dollar-a-ton grain foods and commercial by-products to unprofitable dairy cows cannot work out as a safe principle in farm management, for we cannot make good the loss of either at the pail or in the manure.

It is easy for a man to write an article telling of the increased fertility that is brot onto the farm thru the feeding of dairy cows and to prove to us by actual figures that a ton of butter will remove practically no fertility from our farms, but it is quite another thing for this same man to manage a herd of dairy cows so that they will gradually bring about the improvement of the fertility of his farm.

In all of our older dairying sections we are compelled to recognize a situation that certainly ought not to exist. The land has been gradually depreciating in value until many of the largest dairy farms can be purchased today for less money than the original cost of building the houses and outbuildings. This condition is not the fault of any weakness in the dairy business but has been brot about by dairymen themselves neglecting every modern method of soil handling until their lands have become in such poor physical condition that they no longer produce profitable crops. As long as they were making large amounts of manure they thought they were safe and depended upon their cows to maintain the fertility of their farms while they were fighting nature at every turn and violating every established rule of soil improvement.

In order to make my points plain and not confuse my readers I am going to discuss briefly the methods of cultivation, renovation, crop rotation and fertilization that are being practiced by the successful dairy farmers in some of the most prosperous dairying sections of the country.

Cultivation.

In order to improve the physical condition of our soils and derive the full benefit from manures and organic matter that is plowed under we must practice more intense cultivation. One lesson that dairy farmers need to learn is that a small amount of stable manure will go a long way toward maintaining soil fertility when proper cultivation is practiced. We must give these old soils water and air drainage so that we may plow deeper and decompose larger amounts of organic matter, increase the root growth of our crops and grow crops that will increase the amount of available nitrogen in the soil, for much of the best land in dairying sections is unproductive on account of being water-logged during the larger portion of the year.

Renovation.

The average farmer has a better understanding of soil-improving crops than of renovating crops. Clover is an excellent renovating crop. It puts the soil in a loose and friable condition and prepares it for more perfect pulverization by the implements used in cultivating and fitting. The clover plants act as a leaven, making the soil porous and distributing certain gases which disintegrate the soil particles, allowing a free circulation of the air among the roots and increasing the water-holding capacity of the soil. This action of the air and water around the roots of the plants enables them to do better work at nitrogen fixation, as well as renovating the soil for the succeeding crops.

The long root systems of the clover plants penetrate the depths of the sub-soil and silently search for mineral plant food which they bring up from below and leave within easy reach of the roots of plants that succeed in the rotation. They make the soil more porous and it is more easily penetrated by the roots of the

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If you contemplate building anything of wood, brick, metal or stone, consider first that economy in building and construction on the farm depends on the lasting qualities of the materials used.

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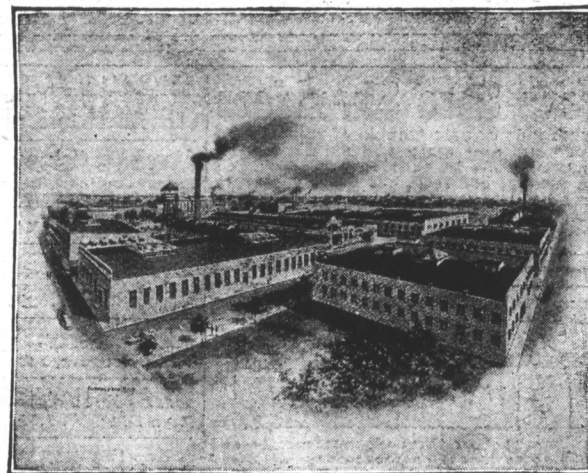
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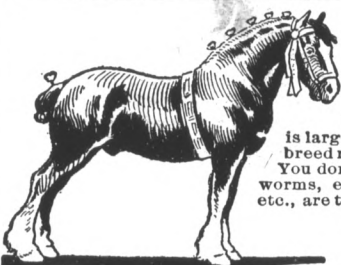
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This "plumb bob" enables you to set the 1909 Tubular "A" perfectly level in a minute—quicker than you could find the spirit level needed to set any other separator. You can always tell, by a glance at the plumb bob, whether Tubular "A" separators are level, thus always keeping the Tubular up to its very best work. Just another example of the "up to the minute" and "away ahead of the rest" character of Tubulars.

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Tubulars are built on absolutely correct principles—that is, Tubulars have a bottom fed bowl hanging below a simple, frictionless ball bearing. The one piece frame and the permanent, compact, strong construction of Tubulars enables us to add to Tubulars some very handy devices which it is impossible for other manufacturers to use on their constantly changing common "bucket bowl" machines.

The incorrect principles of common "bucket bowl" machines—that is, a top fed bowl set up on top of a spindle—make all such machines unsatisfactory and necessitate constant changes that are merely makeshifts and not improvements.

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Common "disc" or "bucket bowl" separators require more careful leveling than Tubulars. Yet, to level these common separators, you must place a spirit level on their frames. If their frames are a little out of true, as they usually are, the leveling of the common "disc" or "bucket bowl" separator is largely guesswork.

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Yorkshires—Six splendid young sows bred for April farrow. A fine lot of fall pigs. Write for what you want. Colon C. Lillie, Coopersville, Mich.

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FERTILITY OF THE DAIRY FARM.

(Continued from page 225).

plants grown in the succeeding crops. It is also a great weed exterminator and when rightly managed it enables us to clean up and renovate a field cheaper and faster than any other method. The roots reach every part of the soil and disintegrate it. By their natural decay they deposit vegetable matter and food brot from the sub-soil and atmosphere and leave it in a form available for other crops that succeed in the rotation.

Rotation.

Rotation is nature's method of building up the soil and we are not far from right when we practice some of nature's methods in the management of our soils. The value of short rotation farming is just coming to be appreciated by the best dairy farmers. By practicing it they find that they may add one cash or market crop to their rotations and sell this one highly organized crop for sufficient cash to pay for all of the feed that is purchased for the dairy. The intense system of cultivation given to this one highly organized market crop produces marked results on all of the other crops that are grown in the rotation, and on many farms the growing of some crop that requires high cultivation would do more good to bring about increased crop production than the addition of large amounts of manure to the soil.

The results that many farmers are obtaining by growing clover, small grain and potatoes by the use of mineral fertilizers is very conclusive evidence that it would pay the dairyman to incorporate some of the methods of soil management practiced by the crop grower into the management of his dairy farm.

Fertilization.

The common mistake made by most dairy farmers is that of hauling all of their manure upon a few acres and neglecting to properly fertilize the larger portion of their work land. The application of eight or ten loads of manure to a clover sod will afford an abundance of nitrogen to the growing crop of corn. The bacteria in the manure will assist in the work of decomposing the stubble and roots of the clover sod and hasten it into a form available for the growing crop at a time when it is most needed by the plants. It is folly for us to apply an excess of nitrogen to our soils in order that we may provide sufficient potash and phosphoric acid to obtain a maximum yield, and for that reason it is judicious practice for dairy farmers to use a fertilizer carrying potash and phosphoric acid in connection with their stable manure. There is a crying need for phosphoric acid and potash on many of the best dairy farms at the present time, for the rotations practiced by the dairyman are very exhaustive of these mineral elements, even tho they maintain an adequate supply of nitrogen for maximum crop production. We dairymen must learn more about the proper management of our soils before we can bring our farms up to their maximum productivity.

New York. W. MILTON KELLY.

THE VALUE OF SWEET SKIM-MILK.

Results of Tests by 14 Experiment Stations.

The writer of this article recently stated at a farmers' institute that every wide-awake practical farmer in the United States should be a subscriber to at least six prominent agricultural papers. He made the statement at this place that at the time he was on the farm he was taking 16 to 18 agricultural papers. He also said that his neighbor who came in and saw them hanging on a line around the room asked the question, "How in thunder do you read them all?" I replied in an emphatic way that I did not read all the papers but that there was not a paper which came to my desk at any time but what was carefully looked over. If I find there are any articles that are of interest in my work, I read them carefully. I said to this farmer, who was a more capable man in that direction, that he should expect a paper might come to his desk 15 or 20 times before he found anything valuable in his line of work. This statement in this institute was well endorsed by a great majority of the farmers.

If we are successful in getting five farmers who are subscribers to this paper to read the summaries of the experiment stations in the United States as to the feeding value of sweet skim-milk, we have done as much as Prof. Holden, who has converted three or four men in every county in the state of Iowa on the meth-

ods of increasing the yield of corn. Wisconsin, Vermont, Utah, Montana, New York, Canada, Missouri, Kansas, Iowa, and West Virginia have all made experiments to determine the very high feeding value of sweet, hand separator skim-milk when fed to poultry, calves, and pigs. For example, in the state of Wisconsin they tested the value of sweet skim-milk for feeding 12 sows and 86 pigs for a given length of time. If we make an allowance of 1c per lb. for the grain consumed in these experiments we find that the value of sweet skim-milk was just 57c for 100 lbs., provided pork was worth \$6.10.

In the state of Vermont they made an experiment on three hogs for 186 days, and in this case the average value of the skim-milk was 59c. In Michigan two experiments were made and in both cases the skim-milk netted 50c per cwt. In the state of Iowa an experiment was made with calves to determine the value of sweet skim-milk. Now, if these were high-class calves that sold on the Chicago market for \$6 per cwt., the skim-milk would have netted 53c per 100 lbs. Let me give you the figures—you may have forgotten them. These calves ate 601 lbs. of grain, 1,484 lbs. of hay, and 3,759 lbs. of skim-milk. They gained 509 lbs. Make an allowance of 1c per lb. for the grain and 30c per cwt. for the hay and you will find that you have an actual value of 53c for the skim-milk. New Hampshire made experiments on pigs and found a value of 70c. West Virginia experimented with 22 chickens to determine the value of 100 lbs. of sweet skim-milk and, when allowing 25c a dozen for the eggs, the skim-milk brot 70 to 74c per cwt.

In conclusion, I say emphatically that it is of much interest to the dairy farmer to take the greatest care of the skim-milk so that he can obtain its full feeding value. It is just as important to prevent waste in this direction as it is to plant good tested corn and endeavor to get three kernels in a hill.

THE CREAM SEPARATOR ON THE FARM.

I don't think there is a machine used on the farm that will bring in more money for the amount invested than the cream separator. It makes it possible to have fresh, warm milk to feed to calves and pigs, and it does away with a lot of hard work for the housewife. With a separator she has no more added to her household duties for three cows than she has for 10. While deep setting and the water processes save a great deal of hard work, they are "nowhere" with a cream separator.

If you are feeding calves in winter it makes lots of work to warm the milk to feed them, while, on the other hand, with a hand machine you can have the fresh, warm milk to feed. Those who have no machine will be surprised to find how convenient this one feature is. I have used a separator for some time and would not be without one.

Where a farmer has four or more cows, yes, three or more, he is losing money by not having a hand separator. It will get a great deal more cream than he can by any other method, as it forces the cream from the milk, while with the others you let nature take its course.

Hillsdale Co. C. C. D.

Which Manure Spreader?

Which spreader shall you buy? Most spreaders are alike in many particulars. But there is this great essential difference between the old line Success Spreader, made at Syracuse, N. Y., which has taken the lead all the way, and other spreaders. Spreading manure by machinery is dreadfully heavy work. The less strain, the less breakage. That is easy to understand. If the operating parts of the machine turn hard, the wheels which drive them must turn hard. With roller bearings in the Success, operating parts to make smooth, easy running and roller bearings in all the wheels for the same purpose, it is easy to see how most spreaders are handicapped. The above is just one of the good points of the old original Success Spreader. We know of no point which the Success Spreader lags behind in others in what makes for right operating and proper spreading of manure.

Getting Better Each Year.

Premiums given for subscription to the Michigan Farmer just received and they are fine. Thanks for them and also for sending me last Saturday's issue of The Farmer. Also three papers arrive on Saturday. The Farmer is most eagerly looked for and read first. I think it is getting better each year. There are articles of deep interest to the farmer in each issue and the household department is always carefully read by farmers' wives. The Magazine section is a grand addition and one which must be greatly appreciated by all your readers.—Edward Curran, Redford, Mich.

DO YOU GET UP WITH A LAME BACK?

Have You Rheumatism, Kidney, Liver or Bladder Trouble?

Pain or dull ache in the back is evidence of kidney trouble. It is Nature's timely warning to show you that the track of health is not clear.

Danger Signals.

If these danger signals are unheeded more serious results follow; Bright's disease, which is the worst form of kidney trouble, may steal upon you.

The mild and immediate effect of Swamp-Root the great kidney, liver and bladder remedy is soon realized. It stands the highest for its remarkable health restoring properties in the most distressing cases. If you need a medicine, you should have the best.

Lame Back.

Lame back is only one of many symptoms of kidney trouble. Other symptoms showing that you need Swamp-Root are, being obliged to pass water often during the day and to get up many times during the night.

Catarrh of the Bladder.

Inability to hold urine, smarting in passing, uric acid, headache, dizziness, indigestion, sleeplessness, nervousness, sometimes the heart acts badly, rheumatism, bloating, lack of ambition, may be loss of flesh, sallow complexion.

Prevalency of Kidney Disease.

Most people do not realize the alarming increase and remarkable prevalence of kidney disease. While kidney disorders are the most common diseases that prevail, they are almost the last recognized by patient and physicians, who content themselves with doctoring the effects, while the original disease undermines the system.

A Trial Will Convince Anyone.

In taking Swamp-Root you afford natural help to Nature, for Swamp-Root is a gentle healing vegetable compound—a physician's prescription for a specific disease.

SAMPLE BOTTLE FREE.—To prove the wonderful merits of Swamp-Root you may have a sample bottle and a book of valuable information, both sent absolutely free by mail. The book contains many of the thousands of letters received from men and women who found Swamp-Root to be just the remedy they needed. The value and success of Swamp-Root is so well known that our readers are advised to send for a sample bottle. Address Dr. Kilmer & Co., Binghamton, N. Y., be sure to say you read this generous offer in The Detroit Michigan Farmer. The genuineness of this offer is guaranteed.



Swamp-Root is always kept up to its high standard of purity and excellence. A sworn certificate of purity with every bottle.

If you are already convinced that Swamp-Root is what you need, you can purchase the regular fifty-cent and one-dollar size bottles at all the drug stores. Don't make any mistake, but remember the name, Dr. Kilmer's Swamp-Root, and the address, Binghamton, N. Y., which you will find on every bottle.

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 The Lawrence Pub. Co.,
 Detroit, Mich.

DETROIT, FEBRUARY 27, 1909.

CURRENT COMMENT.

In our last issue we presented a summary of the report made by the Country Life Commission to the President and by him transmitted to Congress. In another column of this issue we present the full text of the special message with which the President transmitted the full report of the Commission to Congress, in order that our readers may better appreciate his object and aim in the appointment of this commission and his views as to what is needed to insure the raising of country life to a higher plane. From a reading of this message it will be conceded, even by those who have contended that there was little need of, and little to be gained by, this inquiry, that our chief executive has a very clear conception of country life conditions and a very practical idea of the means which would be most effective in the betterment of those conditions. To the end that each member of the Michigan Farmer family may determine for himself whether these views are in accord with his own unexpressed ideas upon the subject let us for a moment consider the three great general needs of country life which President Roosevelt deems most pressing:

"First, effective co-operation among farmers, to put them on a level with the organized interests with which they do business." As will be noted by a careful reading of the message, the President notes that the farmers of progressive European countries have found in the co-operative system exactly the form of business combination they need. During the past year we have published in the Michigan Farmer a series of articles describing the progress made along this line by Danish farmers. As our readers will remember the Danish author of these articles graphically described the almost hopeless condition of Danish farmers before the introduction of co-operative business enterprises by them, and their condition and the condition of the country as well, has been changed to one of prosperity and plenty in comparison by the introduction and extension of the co-operative principle. As the careful reader will remember, the co-operative principle has been applied in Denmark almost wholly along lines of special pro-

duction. The Danish farmers have their co-operative creameries, their co-operative cow-testing associations, breeders' associations, egg associations, bacon factories, etc., all organized along lines of special production in the several communities where these industries flourish. Something of the extent to which co-operation has been developed in that little country which is only about one-fourth the size of Michigan, containing only about 15,000 square miles, will be comprehended when it is known that within its borders are 1,078 co-operative creameries owned and operated by the farmers who patronize them; 1,130 bull associations, organized for the purpose of breeding up the quality of the dairy cows of the country owned by those farmers; 522 cow-testing associations maintained for the purpose of accurately determining the quality and value of the cows maintained in those dairies; something over 500 egg associations, the product from which is marketed co-operatively and whose members are governed by rigid rules as to the quality and freshness of the product sold, and 34 bacon factories with slaughtering and packing plants attached for slaughtering and marketing this product in a co-operative way. This is the kind of co-operation which the Michigan Farmer has long advocated for the farmers of our state. Thru the interest awakened and the efforts of our state departments several co-operative cow-testing associations and a number of breeders, or bull associations, have been organized in our state during the past year, and we have a number of successful co-operative creameries. But the field is almost limitless. We need more of these associations and we need co-operative fruit grower's associations, potato producer's associations, bean grower's associations, etc. including the co-operative elevators which have proven such a success in some sections of the corn belt. This kind of co-operation is simple and easily understood by the producer. Perhaps it may lead to a broader plan in the future, but we believe it is the right way to begin and the most certain road to success along this line, and that it may best be promoted thru influences within, rather than without, the state, with such statistical aid as the national government may be able to give.

"Second, a new kind of schools in the country, which shall teach the children as much outdoors as indoors and perhaps more, so that they will prepare for country life, and not as at present, mainly for life in town." This is in line with the advanced thought of educators and thinking farmers who have given this subject a great deal of consideration. Our own state is already doing something along this line in the extension work carried on under the auspices of the state board of agriculture, by which agricultural courses are being introduced into the high schools of the state wherever there is a demand for such work, with a view to preparing teachers for the giving of primary agricultural instruction in the rural schools. The broader plan of government aid in this direction which was outlined in these columns a few weeks ago in commenting on the Davis bill, if adopted by the federal government, will be another welcome step in the practical and experimental work which must be done in working out the correct solution of this great problem. But whatever form such instruction may finally take, the best thinkers of the country are of one opinion as to its importance and necessity.

"Third, better means of communication, including good roads and a parcels post, which the country people are everywhere, and rightly, unanimous in demanding." So far as good roads are concerned, the need has been recognized in Michigan and our people have signified their willingness to co-operate in the betterment of the highways of the state by the adoption of the state reward road law and the cash tax law, under the provisions of which the people of the state at large, and not merely the farmers, contribute to permanent road improvement. This movement is as yet in its infancy, but a general betterment may be expected in the not distant future. So far as the parcels post is concerned the farmers of the country are of one accord and but await the favorable action of Congress.

But there is another point in this message which our readers who are in accord with the above noted ideas, as we believe the great majority of them are, should not overlook, and that is the importance attached to the personal equation in

working out those ideas in a practical manner. That, after all, is the supreme test, and if this inquiry but awakens a general public interest in the betterment of country life conditions along these and other lines, the President and Country Life Commission will have, in that awakening, accomplished their most important and far reaching work in the future betterment of country life.

Some Michigan Advantages.

Often the young man who is interested in agriculture and who has determined to make his life profession finds it profitable to look about him and take an inventory of the possible advantages of engaging in the business in his own community, or in some more or less distant locality in his own or some other state. The fact that in taking such an inventory of advantages many young men are apt to value too cheaply the natural advantages to which they are accustomed and which they know all about and place a high value upon supposed advantages with which they are not familiar from personal knowledge or experience, has induced us to comment at this time upon the advantages of Michigan from an agricultural standpoint, but without in any way depreciating the advantages of other localities in this greatest of agricultural countries.

Probably the first point that will be considered by the average young man who is a resident of our north central states and who is looking for the best opening to begin the farming business for himself, is the necessary investment in a farm. Strange as it may appear, while Michigan received the attention of the pioneer farmer earlier than many if not most of her contiguous sister states, yet partly because she is a little at one side of the trend of western emigration, and partly because of the greater ease with which the land of the prairie states could be improved, land values in Michigan have remained relatively lower than in the best agricultural states immediately to the south and west of us. It will require no great amount of investigation on the part of the inquiring young man to satisfy him on this point. Even in our lower and more thickly settled agricultural counties, the best farming land, which compares favorably in quality with that of the other localities mentioned, can be purchased very much more cheaply, while large areas of excellent farming land in our central and northern counties can be had at a fraction of the price which it would take to buy similar lands almost anywhere else in the northern portion of the central west.

But in considering this advantage the inquiring young man will naturally seek to learn if there are not some special handicaps in the way of limitation of production, market facilities, social advantages, etc., in which our Michigan communities are lacking. Here, again, he can satisfy himself that our agriculture is more diversified than that of almost any other state, and that we are well up toward the top in production of many of the principal staples and cash crops. Michigan holds first place in the production of beans, second in the production of sugar beets, is close to the top of the list in the production of potatoes and fruit, an easy leader in the production of peppermint, celery and some other special crops, while the variety of agricultural production surpasses that of most, if not any, other states, and our live stock and dairy interests are growing apace.

In addition to this the other great producing industries in which Michigan is a leader, such as the production of salt, the mining of copper and iron, the manufacture of cement, and in manufactures and commerce such as our great ship building and shipping enterprises, car shops, furniture and automobile factories in which we lead the world, and the almost countless other industrial enterprises which keep our urban population away ahead of our agricultural population, makes a large home market not only an established fact, but assures a healthy and regular increase in the home outlet, while our transportation facilities, particularly by water, are superior to those enjoyed by most other sections of our great country. Then, too, our farmers are better organized in a social way than those of any other state. We are well to the front in agricultural education, and in the dissemination of the most up-to-date ideas and methods of modern agriculture. Altogether our state has a long list of natural and acquired advantages which should be well

considered by the young man, either within or without the state, who is looking for a location in which to start into the business of farming with a prospect of ultimate success and the accumulation of a comfortable competence.

HAPPENINGS OF THE WEEK.

Foreign.

Seven men were killed by a premature explosion of dynamite near Nipigon on the Grand Trunk Pacific line, Sunday.

Special attention is being given the delegation of American exporters by French officials regarding the increase of tariffs on goods from the United States. Already the recently high duties suggested were under advisement for modification.

It is stated that 2,000 miles of railroad in southwestern Russia is blocked with snow from recent blizzards. Many lives have been lost in the storms.

The tariff reform bill fathered by Joseph Chamberlain, former prime minister of England, was defeated last week by a heavy vote in the English parliament. The fight over the measure was along the old lines, the opposition to the bill favoring the products from colonies.

The central committee of the Russian revolutionary party was quickly dissolved last week because one of the members of the committee was discovered to be a spy of the government. It is expected that the dissolution will greatly aid the government in restoring order where there has been trouble.

A mysterious automobile was recently seized by the police of Riga, Russia, in which was afterwards found a complete printing outfit that had been used by revolutionists.

An imperial edict was issued last week authorizing the establishment of a navy for China. The same instrument names the men who are to have charge of the department.

The powers of Europe have received notification from Bulgaria asking that she be recognized as an independent nation. The communication refers to the dignity which the country has maintained during the recent troubles and cites the fact that unless she be recognized at this time the consequent results from the unsettled situation of affairs in Turkey, is likely to result disastrously to peace and order in the Balkans.

The German scientist, Hecker, who has been laboring for the past six years on the problem of the tides of the earth's surface which correspond with the tides of the ocean, announces that he has determined the rise and fall to be about four to five inches at London, England. During these years the scientist has carried on his experiments in a well some 80 feet deep.

A large number of trains are reported to have been snowed in by the blizzards raging in Russia. To date 500 persons are said to have perished.

The Serbian government is now manufacturing bombs to be used by its armies in close fighting. Five types are being put out.

National.

While investigating the sanitary conditions of the Missouri penitentiary at Jefferson City it was learned that 75 per cent of the deaths occurring in the building resulted from consumption.

The most famous grove of trees in the world has been saved to the country for all time by the signing of a bill last week by President Roosevelt. The Calaveras Grove, of California, was made a national forest reserve thereby.

The veto of Gov. Patterson, of Tennessee, was overridden three times by the legislature of that state last Friday when the bills providing for a legalized primary and for state and county election boards, in which the executive will have no appointive power, were passed over his head.

Favorable replies have come to President Roosevelt's inquiries of the advisability of holding a conference of all civilized nations regarding the conservation of the natural resources of the world. The plan is to have representatives from the different countries meet next autumn at the Hague.

After finishing the most venturesome trip ever attempted by a fleet of battleships, the American fleet of armored vessels steamed by Old Point Comfort last Monday morning, thus finishing a journey of over 40,000 miles including its trip around the world. Altho the weather was anything but pleasant every point of vantage was occupied by persons eager to catch a glimpse of the vessels as they passed in review before President Roosevelt and party who were stationed in the Mayflower just inside the point. The reception of the officers on board of the Mayflower was full of congratulation for the men who had won such honor for the country by completing so successfully the responsibility placed upon them of taking the great fleet on its long journey.

The Niagara river has become so gorged with ice above the falls that it is possible to pass over the American falls afoot. This condition has prevailed only twice during the past century.

Five thousand persons witnessed the formal opening of the Payette-Boise project in Idaho, the largest reclamation work undertaken by the government, there being about 200,000 acres benefited by the project.

On different days of this week 11 counties of Indiana will vote on the local option question.

The murder of a policeman by a Greek laboring man in South Omaha last Friday aroused the citizens against the Greeks and a mob of 5,000 persons attacked the quarters generally occupied by the foreigners. Fully 50 Greeks were beaten and 30 of their buildings wrecked while a few were set on fire by the angered crowd. An appeal was made to the ambassador at Washington and to King George of Greece.

THE "COUNTRY LIFE" MESSAGE.

Special Message Transmitting Report of the Commission to Congress.

To the Senate and House of Representatives:

I transmit herewith the report of the Commission on Country Life. At the outset I desire to point out that not a dollar of the public money has been paid to any commissioner for his work on the commission.

The report shows the general condition of farming life in the open country, and points out its larger problems; it indicates ways in which the Government, National and State, may show the people how to solve some of these problems; and it suggests a continuance of the work which the commission began.

Judging by thirty public hearings, to which farmers and farmers' wives from forty States and Territories came, and from 120,000 answers to printed questions sent out by the Department of Agriculture, the commission finds that the general level of country life is high compared with any preceding time or with any other land. If it has in recent years slipped down in some places, it has risen in more places. Its progress has been general, if not uniform.

Yet farming does not yield either the profit or the satisfaction that it ought to yield and may be made to yield. There is discontent in the country, and in places discouragement. Farmers as a class do not magnify their calling, and the movement to the towns, tho, I am happy to say, less than formerly, is still strong.

Under our system, it is helpful to promote discussion of ways in which the people can help themselves. There are three main directions in which the farmers can help themselves; namely, better farming, better business, and better living on the farm. The National Department of Agriculture, which has rendered services equalled by no other similar department in any other time or place; the state departments of agriculture; the state colleges of agriculture and the mechanic arts, especially thru their extension work; the state agricultural experiment stations; the Farmers' Union; the Grange; the agricultural press; and other similar agencies, have all combined to place within the reach of the American farmer an amount and quality of agricultural information which, if applied, would enable him, over large areas, to double the production of the farm.

The object of the Commission on Country Life therefore is not to help the farmer raise better crops, but to call his attention to the opportunities for better business and better living on the farm. If country life is to become what it should be, and what I believe it ultimately will be—one of the most dignified, desirable, and sought-after ways of earning a living—the farmer must take advantage not only of the agricultural knowledge which is at his disposal, but of the methods which have raised and continue to raise the standards of living and of intelligence in other callings.

Those engaged in all other industrial and commercial callings have found it necessary, under modern economic conditions, to organize themselves for mutual advantage and for the protection of their own particular interests in relation to other interests. The farmers of every progressive European country have realized this essential fact and have found in the co-operative system exactly the form of business combination they need.

Now whatever the State may do toward improving the practice of agriculture, it is not within the sphere of any government to reorganize the farmers' business or reconstruct the social life of farming communities. It is, however, quite within its power to use its influence and the machinery of publicity which it can control for calling public attention to the needs and the facts. For example, it is the obvious duty of the Government to call the attention of farmers to the growing monopolization of water power. The farmers above all should have that power, on reasonable terms, for cheap transportation, for lighting their homes, and for innumerable uses in the daily tasks on the farm.

It would be idle to assert that life on the farm occupies as good a position in dignity, desirability, and business results as the farmers might easily give it if they chose. One of the chief difficulties is the failure of country life, as it exists at present, to satisfy the higher social and intellectual aspirations of country people. Whether the constant draining away of so much of the best elements in the rural population into the towns is due chiefly to this cause or to the superior business opportunities of city life may be open to question. But no one at all familiar with farm life thruout the United States can fail to recognize the necessity for building up the life of the farm upon its social as well as upon its productive side.

It is true that country life has improved greatly in attractiveness, health, and comfort, and that the farmer's earnings are higher than they were. But city life is advancing even more rapidly, because of the greater attention which is being given by the citizens of the towns to their own betterment. For just this reason the introduction of effective agricultural co-operation thruout the United States is of the first importance. Where farmers are organized co-operatively they not only avail themselves much more readily of business opportunities and improved methods, but it is found that the organizations which bring them together in the work of their lives are used also for social and intellectual advancement.

The co-operative plan is the best plan of organization wherever men have the right spirit to carry it out. Under this plan any business undertaking is managed by a committee; every man has one vote and only one vote; and everyone

gets profits according to what he sells or buys or supplies. It develops individual responsibility and has a moral as well as a financial value over any other plan.

I desire only to take counsel with the farmers as fellowcitizens. It is not the problem of the farmers alone that I am discussing with them, but a problem which affects every city as well as every farm in the country. It is a problem which the working farmers will have to solve for themselves; but it is a problem which also affects in only less degree all the rest of us, and therefore if we can render any help toward its solution, it is not only our duty but our interest to do so.

The foregoing will, I hope, make it clear why I appointed a commission to consider problems of farm life which have hitherto had far too little attention, and the neglect of which has not only held back life in the country, but also lowered the efficiency of the whole nation. The welfare of the farmer is of vital consequence to the welfare of the whole community. The strengthening of country life, therefore, is the strengthening of the whole nation.

The commission has tried to help the farmers to see clearly their own problem and to see it as a whole; to distinguish clearly between what the Government can do and what the farmers must do for themselves; and it wishes to bring not only the farmers but the Nation as a whole to realize that the growing of crops, tho an essential part, is only a part of country life. Crop growing is the essential foundation; but it is no less essential that the farmer shall get an adequate return for what he grows; and it is no less essential—indeed it is literally vital—that he and his wife and his children shall lead the right kind of life.

For this reason, it is of the first importance that the United States Department of Agriculture, thru which as prime agent the ideas the commission stands for must reach the people, should become without delay in fact a Department of Country Life, fitted to deal not only with crops, but also with all the larger aspects of life in the open country.

From all that has been done and learned three great general and immediate needs of country life stand out:

First, effective co-operation among farmers, to put them on a level with the organized interests with which they do business.

Second, a new kind of schools in the country, which shall teach the children as much outdoors as indoors and perhaps more, so that they will prepare for country life, and not as at present, mainly for life in town.

Third, better means of communication, including good roads and a parcels post, which the country people are everywhere and rightly, unanimous in demanding.

To these may well be added better sanitation, for easily preventable diseases hold several million country people in the slavery of continuous ill health.

The commission points out, and I concur in the conclusion, that the most important help that the Government, whether National or State, can give is to show the people how to go about these tasks of organization, education, and communication with the best and quickest results. This can be done by the collection and spread of information. One community can thus be informed of what other communities have done, and one country of what other countries have done. Such help by the people's government would lead to a comprehensive plan of organization, education, and communication, and make the farming country better to live in, for intellectual and social reasons as well as for purely agricultural reasons.

The Government thru the Department of Agriculture does not cultivate any man's farm for him. But it does put at his service useful knowledge that he would not otherwise get. In the same way the National and State Governments might put into the people's hands the new and right knowledge of school work. The task of maintaining and developing the schools would remain, as now, with the people themselves.

The only recommendation I submit is that an appropriation of \$25,000 be provided, to enable the commission to digest the material it has collected, and to collect and to digest much more that is within its reach, and thus complete its work. This would enable the commission to gather in the harvest of suggestion which is resulting from the discussion it has stirred up. The commissioners have served without compensation, and I do not recommend any appropriation for their services, but only for the expenses that will be required to finish the task that they have begun.

To improve our system of agriculture seems to me the most urgent of the tasks which lie before us. But it can not, in my judgment, be effected by measures which touch only the material and technical side of the subject; the whole business and life of the farmer must also be taken into account. Such considerations led me to appoint the Commission on Country Life. Our object should be to help develop in the country community the great ideals of community life as well as of personal character. One of the most important adjuncts to this end must be the country church, and I invite your attention to what the commission says of the country church and of the need of an extension of such work as that of the Young Men's Christian Association in country communities. Let me lay special emphasis upon what the Commission says at the very end of its report on personal ideals and local leadership. Everything resolves itself in the end into the question of personality. Neither society nor government can do much for country life unless there is voluntary response in the personal ideals of the men and women who live in the country. In the development of character, the home should be more important

than the school, or than society at large. When once the basic material needs have been met, high ideals may be quite independent of income; but they can not be realized without sufficient income to provide adequate foundation and where the community at large is not financially prosperous it is impossible to develop a high average personal and community ideal. In short, the fundamental facts of human nature apply to men and women who live in the country just as they apply to men and women who live in the towns. Given a sufficient foundation of material well being, the influence of the farmers and farmers' wives on their children becomes the factor of first importance in determining the attitude of the next generation toward farm life. The farmer should realize that the person who most needs consideration on the farm is his wife. I do not in the least mean that she should purchase ease at the expense of duty. Neither man nor woman is really happy or really useful save on condition of doing his or her duty. If the woman shirks her duty as housewife, as home keeper, as the mother whose prime function it is to bear and rear a sufficient number of healthy children, then she is not entitled to our regard. But if she does her duty she is more entitled to our regard even than the man who does his duty and the man should show special consideration for her needs.

I warm my countrymen that the great recent progress made in city life is not a full measure of our civilization; for our civilization rests at bottom on the wholesomeness, the attractiveness, and the completeness, as well as the prosperity, of life in the country. The men and women on the farms stand for what is fundamentally best and most needed in our American life. Upon the development of country life rests ultimately our ability, by methods of farming requiring the highest intelligence, to continue to feed and clothe the hungry nations; to supply the city with fresh blood, clean bodies, and clear brains than can endure the terrific strain of modern life; we need the development of men in the open country, who will be in the future, as in the past, the stay and strength of the nation in time of war, and its guiding and controlling spirit in time of peace.

Spray Your Fruit Trees and Vines.



Now is the time for every fruit grower to study up the question, and be prepared to spray trees and vines at the proper time and to know the best solutions to use. The William Stahl Sprayer Co., Box 108 A. C., Quincy, Illinois, has gotten out a book which is of great interest to fruit growers. While this company is interested in the sale of sprayers and germicides, the book is published with the idea of its being a great help to farmers and fruit growers, helping them to grow more and better fruit. It tells you all about spraying—how, when, where and what to use. A copy will be sent to any address upon request.

How to Curry a Horse.

Every farmer has a daily experience in cleaning horses. Some farmers know how to do this work well with an ordinary curry comb. Others seem not to understand how to clean a horse with any kind of cleaning utensils. The work is important, to the horse at least, because if properly groomed he is liable to be kept healthy and vigorous. The best curry comb that we have ever seen is manufactured by the Clean Comb Company, Racine, Wis. It is a comb that is self-cleaning. You do not need to pound the stalls into splinters knocking the hair and dandruff from the comb. It is automatic and makes the cleaning quicker and more thorough saves about half the time, and labor, and does away with the usual annoyance and difficulty. It is made of cold-rolled steel thruout, is strong and simple. It will pay you to get a Clean Comb of your dealer at once. Read the offer of the Clean Comb Co., in this issue.

Improvements in Amatite Ready Roofing.

Amatite Roofing, which has for several years been growing rapidly in popularity among our readers on account of its no-paint mineral surface, is now being made with several little improvements designed to make it easier to lay. One of these is the smooth lap, left along the edge of the roll, about three inches wide, where the mineral surface is omitted. This smooth lap makes a closer and tighter joint possible. The adhesive cement which is supplied with each roll now comes in liquid form and does not require heating before use. Instead of supplying nails and caps, the nails themselves have extra large heads, thus saving considerable bother in putting down the roofing. Readers who are unfamiliar with Amatite Roofing should send for a sample to nearest office of the Barrett Manufacturing Company, New York, Chicago, Cleveland, Boston, Pittsburg, Kansas City, St. Louis, Minneapolis, Philadelphia, New Orleans and Cincinnati.

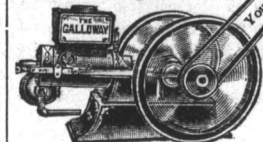
Three years ago the Hercules Mfg. Co., Dept. P., Centerville, Iowa, placed on the market the first stump puller made of solid steel, reducing the weight 50 per cent and increasing the pulling capacity 400 per cent. Thus at one stroke they overcame the great objection of heaviness and unwieldiness, constantly urged against iron machines. Applications for patents are now pending. The new pullers are already being placed on the market.

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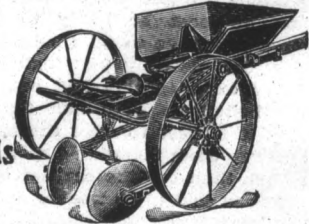
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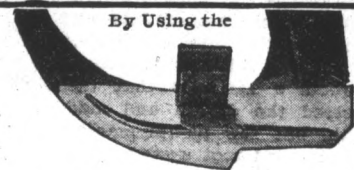


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HORTICULTURE

STRAWBERRY PLANTS FOR 1909.

Those who are planning on getting strawberry plants for spring setting and have not ordered yet should attend to it at once, as the probabilities point to a shortage of well rooted plants for 1909 trade, and possibly to a further rise in prices. Most of the nurseries have announced a substantial rise in prices on account of the dry season preventing the setting of a large number of plants; and when the plants are dug the supply may prove to be still smaller than anticipated, so those ordering late may not be able to get their plants, and they will at least be likely to get smaller plants, or have to take substituted varieties, and possibly pay higher prices.

The experience of last season confirms the belief we have had for some time that it is best to save the early runners and get them layered as soon as possible, rather than cut the earliest ones because they are said to be weaker and to weaken the parent plant as claimed by some. It will be remembered that we had a dry spell the last of July, followed by a hard rain in early August, then another drought which lasted through the autumn. We were fortunate in getting our runners layered, both for fruiting and for plants the last of July and first of August, so the rain which followed settled the dry soil around them and gave the roots a start so that these plants withstood the drouth and made a good growth, but few plants started and obtained a good root system that were not in place before this rain. Now, if we had cut the most of these runners which first formed in July instead of layering them we would have had poorly filled rows and fewer and smaller plants. It might work all right on a wet season like 1907, but I prefer to take chances with the early runners every year.

Calhoun Co. S. B. HARTMAN.

CABBAGE, EARLY AND LATE.

The first requisite in successful cabbage growing is good seed, as no amount of fertility or culture can compensate for an inferior or unfertile quality. No less important, perhaps, are soil and cultural conditions. A cool, rich, moist soil is best adapted to cabbage culture, but lacking these, heavy fertilizing and intensive culture must, insofar as possible, compensate for the deficiencies. The cabbage crop, both early and late, is subject to serious onslaughts from enemies both insect and fungus, and some suggestions as to the most successful methods of combatting these will, we believe, be timely. The early sorts will not suffer from the attacks of the cabbage worm to any appreciable extent, as it is usually safely out of the way before the appearance of that much despised pest. Its chief enemy is the cabbage maggot, much to be dreaded and hard to control, as it works underground and is thus difficult of approach. High fertility and intensive culture are, in their way, good preventives and should be followed to the limit; but often they will prove inadequate.

The trouble is caused by a fly, (seemingly well adapted to its nefarious purpose), depositing eggs upon the stem of the plants just above the ground surface. As the maggots hatch they descend into the ground where their work goes on uninterruptedly.

For this form of the attack it has been recommended to make protectors of heavy pasteboard or tarred paper. These may be cut square or round, four to six inches in diameter, with an incision running from the outer edge to the center where a round hole is cut to accommodate or receive the stem of the plant. These are said to be effectual for the reason that the maggot, when hatched, cannot get below the paper and so will not work damage to the root. Making the protectors by hand is somewhat slow and tedious, or would be where large numbers are required, but in some instances they have been cut by a die, which can be done rapidly. Doubtless the most effectual remedy now in use is kerosene emulsion after the following formula: To two quarts of boiling soap thinned to the consistency of cream, add one quart of kerosene oil. Thoroughly mix by stirring or churning until a cream-like substance is formed and dilute with five times the amount of water. Remove the earth from around the stem and apply the emulsion once a week.

Club root, a fungus disease, is liable to attack either the late or early crop, and wherever there is reason to suspect its presence, air-slacked lime, at the rate of 2,000 to 3,000 pounds per acre should be applied to the surface before planting out. If it is known that the ground is infested, the lime should by all means be applied; but the land should be devoted to other crops for two or three years. And this should apply to all cruciferous (bearing seed in pods) crops.

As stated above, the late crop will be safe from the maggot nuisance, but instead must run its chances with the cabbage worm. Fortunately, this damage is not so noticeable in large fields or areas as in the home gardens or small patches. Many remedies are in use for this trouble, but in my own experience I have found nothing more effectual than equal parts of salt and wood ashes liberally dusted on when the plants are damp with dew or rain. There need be no fear of injuring the plants with the salt, as they like it and will stand plenty of it. Pyrethrum is also much used and is a fairly effective remedy, but I prefer the former. Paris green and slug shot are used by many and these poisons are not dangerous until the heads are half or two-thirds grown after which they should be discontinued.

Time of Planting.

No hard and fast rules can be followed as to season of transplanting to the open ground. One thing is certain, however, for the first early crop the plants must be permanently in the ground just as early as soil and weather will admit. They will stand pretty cold weather and if well hardened considerable frost also, so that above the 40th parallel from February 15 to the middle of March, owing to its locality, is none too early to start the seeds in the hotbed. Then under good conditions of growth, transplanting in the hotbeds and careful hardening off they should be ready for the open ground as soon as soil and weather will admit. Generally speaking, in the latitude of Detroit, early April will be as early as the plants can safely go into the open ground; and even this will be largely determined by particular location and soil. In nearly all locations the late plants can be grown in the open ground and late May with some variations as to locality will be early enough to sow the seed.

Extra Early Sorts.

It must be remembered that there are far more names attached to the cabbage family than distinct sorts, and this comes thru different seedsmen rechristening the old and standard varieties. So that a list of names as long as the moral law is required even to get all that is best out of the entire round-up.

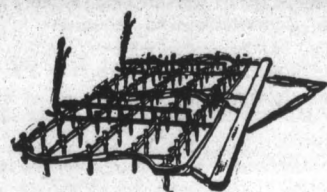
The Early Jersey Wakefield is, without doubt, the earliest known variety, and is the main dependence of the garden craft for a first early. It is almost oak-hardy, thus enabling it to thrive under adverse weather conditions that will prove destructive to most first early sorts. It is excelled by none and equalled, if at all, by very few. Large Wakefield is somewhat later, but larger and less conical than the former. Its extreme hardness for early planting out makes it a good succession for the earlier sort and growers who plant largely of it will not go amiss.

Early Spring is the earliest flat-headed variety under cultivation, being just a little later than the Larger Wakefield. It is exceedingly popular as a market sort, growing nearly as large as many of the later varieties, and its very compact form, with few outer or coarse leaves, allows of closer setting than almost any other variety, so there is no question as to yield.

Of the medium early sorts there are some deserving of especial mention. Early Flat Dutch is one of the most popular sorts under cultivation. Its compact form admits of close setting and its sure heading quality are points not to be overlooked, especially in a market variety. Brunswick Short Stem is exceedingly popular in the east, and no doubt is equally as good for the western grower. It is of the flathead type and the medium as to season it is a good winter keeper and, all in all, is one of the most popular sorts grown. Early Winnigstadt is one of the most popular of all varieties, very hardy and a sure header. Medium as to season it is nevertheless equally good for winter, and owing to its conical upright habit of growth and peculiar leaf texture it is considered the least susceptible to insect attacks of any variety grown. Of the late sorts the Premium Flat Dutch is doubtless

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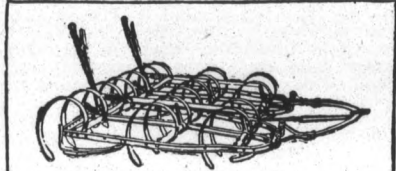


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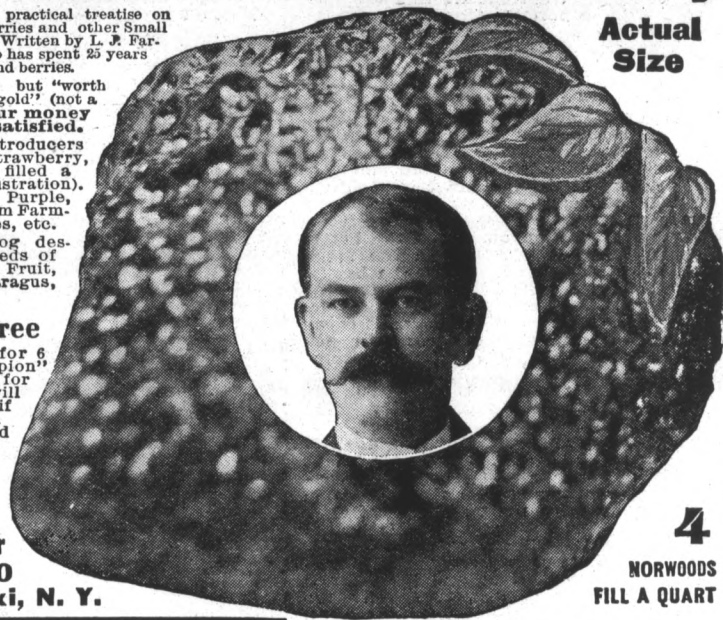
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better known and most popular of all. Under good conditions 95 per cent of the plants will head and it holds remarkably true to type. The Premium Late Drumhead is also a valuable market sort, in rich soils having a very large, deep head. It also has the valuable quality of being the best yielder in poor soil of any sort at present known. Mammoth Drumhead is the largest known variety and also good as to quality. Entire fields have been grown with an average of 30 pounds per head and this, we believe, could not be duplicated with any other known sort. The Danish Ball Head is a deservedly popular sort, excellent in quality, very solid as to texture, and doubtless unequalled as a keeper or shipper.

As to the red sorts so much sought after for pickling purposes, I believe we shall find the sum of all excellence verified in one single variety, Mammoth Rock Red. Its large size and sure heading quality, fine flavor and rich red color, make it the choice of all the red sorts, both for home or market purposes. In the above list we have aimed to offer only the "winnowed wheat." Many other varieties are good, but considered from many viewpoints as, home use, market demands, soil and climatic conditions, etc., we believe the above selections are safe and conservative.

Wayne Co. J. E. MORSE.

PURCHASING SPRAY MATERIALS.

The time is at hand for the purchase of spray materials. The indications are that there will be an unprecedented demand for spraying chemicals this season and this may cause a shortage that will make orders slow in being filled or a rise in prices, or both. When one knows he will need a certain amount of these materials it may save much anxiety and perhaps prevent the first spraying being neglected if the materials are ordered on time. It will also be a little easier to get at the spraying on time if the materials are purchased, since the farmer will then reason that he must certainly attend to the spraying because he has some money already invested in the materials.

If there is scale in the orchard the first thing to be considered is a spray material suitable to combat this pest, since this must be applied before the leaves are out. The sprays used for this purpose are chiefly the home-made lime-sulfur mixture, the commercial lime-sulfur preparations and the soluble oil sprays. In general I believe we should confine our choice to the first two as our experiment station does not recommend the oil sprays and they are of little value as fungicides, while the lime-sulfur washes are good fungicides and take the place of the first application of copper sulfate if applied at the right time, in addition to being the best known remedy for the scale.

As to whether we are to use the home-made or the commercial lime-sulfur will depend much upon conditions. It is probable that the large grower can prepare his own materials more cheaply than he can purchase them already prepared, yet many are now using the commercial preparations, believing that the increased cost of labor in preparing and applying the home-made wash will offset the extra cost of the commercial preparation. If the farmer who uses a barrel or less can secure the commercial mixture at a reasonable cost, say 20 cents per gallon or less, I believe it will prove cheaper and more satisfactory than to make that amount at home. Many farmers with small orchards will need only a half barrel, (about four gallons will make 50 gallons of spray material), and if he can purchase this in a half barrel cask he can spray at any time by simply diluting with cold water. This will offer a better inducement for the farmer to take up the work than will the impression that he must prepare his spray by boiling for an hour and applying hot, which is not a very agreeable job.

As for comparative efficiency nothing has been found better than properly cooked home-made wash, but Professor Taft states that the best brands of the commercial mixture are nearly as good as the best home-made wash, and it is probable that they are better than the home-made material as many make it. Sulfur will cost the average farmer about three or three and one-half cents per pound, and the 15 pounds of sulfur and 25 pounds of lime to make a barrel of mixture would cost about 60 cents. The prepared mixture at 20 cents per gallon would cost about 80 cents per spray barrel, leaving 20 cents to pay for the labor of preparing a barrel of the wash. Copper sulfate will also be needed early,

whether the trees have scale or not. It will take three to four pounds for a barrel of spray, and it will probably cost the average farmer six to seven cents per pound in quantities of 100 pounds or more. Prices on this are very variable, rising and falling with the copper market. This is the leading fungicide, and combined with lime makes Bordeaux mixture, the principal remedy for the scab.

Arsenate of lead and paris green are the principal arsenates for the apple "worm," and other eating insects. Paris green is much cheaper, but one cannot apply as much arsenic in this form as in arsenate of lead and it is more easily washed off by rains. For these reasons most of the larger growers are using arsenate of lead either alone or in combination with other arsenicals such as arsenite of lime. Paris green will cost the average farmer from 25 to 40 cents per pound, depending upon the grade and quantity purchased, and from one-fourth to one-third pound will be needed for a barrel of the spray. Arsenate of lead will cost in the neighborhood of 12 cents per pound and from two to three pounds are required to the barrel.

The above statistics and prices are given hoping they may aid the many who have not yet sprayed, to estimate the amount and cost of materials needed, and to purchase them in time. Large growers can purchase somewhat cheaper than the prices given, and small amounts for a few trees will cost more, but the prices are a fair average for the general farmer out of fruit sections.

Calhoun Co. S. B. HARTMAN.

PROVIDE A GOOD LAWN.

I believe that a properly cared for lawn adds to the value of a farm. It looks at least to the passerby, that the people who live there are comfortable and happy. The average front yard is a pretty bad proposition to tackle, but much can be done if the spirit is willing and the flesh not too weak. The average farmer becomes very weak when the condition of the yard is mentioned, or very busy, and the job usually falls to his wife. Country yards would be much pleasanter if the yards were properly cared for, shade trees set, and also flowering shrubs and plants. The catalogs and the tree agents have so many things to offer in trees, shrubs, and plants that there is almost no limit of choice. It doesn't really take much time to do these things, nor much money.

Sometimes the back yard and barnyard are filled with a collection of venerable vehicles and dilapidated farm machinery long past their days of usefulness. On our farm these articles, when no longer useful, are drawn into a field and burned. The bolts are sorted out and saved and the old iron sold at the junk shop. "The boy" has the money from the sale of the old iron, so he keeps it gathered up and piled out of sight from the house. The little girl has the money from the old rubbers so these are kept gathered up also.

In the two years we have lived in our present home there have been several wagon loads of old rails and boards drawn from the back yard and barnyard to the woodpile. The fences have been rebuilt around the yard and several wagon loads of sand put in to fill up sags where water stood, but this is only a beginning, for both the front and back yard are full of little humps and hollows which must be done away with before a lawn mower can be used.

City folks would soon stop looking down on the farmer if he would make himself and his farm worth looking up to.

Then there is another side to the question: Would the young folks be so anxious to leave the farm if it was a pleasant home instead of just a place to work?

Barry Co.

K. T.

The annual bearing tree, instead of lifting its limbs high in the air will droop them from the influence of the weight of the fruit. When they only bear occasionally they have opportunity to straighten before they are again weighted. This feature makes a fairly accurate guide when purchasing an orchard or gathering scions for grafting.

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PLANNING FOR NEXT YEAR.

The main work of the gardener now is to plan the garden for next year. You know by this time what has paid and what has not. You know what your soil is fitted for and what your market wants. You can form a pretty good idea of whether you want to grow crops on the intensive or extensive plan. In other words you can figure out whether it pays you best to put lots of work on a small amount of ground, or as little labor as possible on a considerable acreage.

Here in New Jersey where land is high priced, \$125 per acre, or \$6.00 per acre rent, I prefer to use fewer acres and more labor, but in places where land is cheaper and labor scarce and high I know it pays better to put in lots of land and get along with as little labor as possible. It is for every man to choose which suits him better. Either one can be made a success. I have always gardened on the intensive plan, having in perhaps 20 acres of small stuff, and hiring lots of help. My main competitor in the garden business was a man who rented 10 acres of rather thin land, that he got for \$4.00 per acre. He hired much less labor and while he got smaller yields he made nearly as much profit as I did, and now owns a farm of his own.

Onions can be made to pay if a man wishes to put a good bit of labor on a small piece of land. I have always made a profit on them and often a good big profit. They will do well on almost any land but of course will do best on good rich land. A yield of 300 bushels per acre is about an average, but I have had them up to 600 bushels per acre and have known of cases of even larger yields. Price onions in the stores now and they will ask you fully one dollar a bushel. You can figure out for yourself what there is in it. Small onions for sets are also a very good paying crop. I had some this year that made 200 bushels per acre and they are now worth \$2 per bushel. Some years I have known them to sell down to a dollar, but never less than that. The worst drawback with them is that it takes 50 pounds of seed to the acre and it costs from 50 to 75 cents per pound. The profits are, however, proportionately large. The seed is sown in rows a foot or 14 inches apart the same as the big onions, but about ten times as thick in the row, and later in the season. We sow in May.

Probably more money to the acre can be made from celery than from any other garden crop. Try a block of it next year. It can be grown on any rich, moist soil that would grow good, late cabbage. Mine is in rows 4 feet apart and the plants about 4 inches in the rows.

If you have a market for early radishes you can make big money out of them and make it quicker than with any other crop. I have often sold \$100 worth in 3 weeks from an acre sown broadcast with a grass seeder, and after they were off in May I had the ground for late cabbages. You are out practically nothing but about five pounds of seed to the acre and perhaps an hour's time sowing them and harrowing them in. If you find a market for them, all right, and if not, you are not out much. I would advise you to sow a pound each of five different varieties and then you stand a better chance of pleasing every one of the patrons.

For the gardener who wants something he can tend with a riding cultivator. I would recommend early peas. They can be planted with a bean or corn drill set to sow very thickly and can be tended with a common cultivator. They do not require much work, but the picking, and we hire that done at 18 cents per bushel. A good yield is 100 bushels per acre of green peas in the pod, and I have often had 150. The first will bring \$1.25 to \$1.50 per bushel and later when they get plentiful will sell for just about one-half. The great secret is to get them in very early. I have often put them in on fall plowing, when the drill would grate on frozen ground every little ways. Of course, you cannot plant wrinkled peas early that way.

If you have a good market, early sweet corn is a paying crop. It can be planted thickly and an enormous number of ears grown to the acre. I have had as high as 700 dozen ears to the acre and it generally sells at 10 to 15 cents per dozen. While the later sorts are much bigger and sweeter ears they do not, as a rule, pay as well as the earlies. Plant Cory, White Mexican and other early kinds. They will be off the ground by the latter part of July and you can get another crop in after it.

New Jersey. C. A. UMOSELLE.

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To overcome the well-grounded and reasonable objections of the more intelligent to the use of secret, medicinal compounds, Dr. R. V. Pierce, of Buffalo, N. Y., some time ago, decided to make a bold departure from the usual course pursued by the makers of put-up medicines for domestic use, and so has published broad-cast and openly to the whole world, a full and complete list of all the ingredients entering into the composition of his widely celebrated medicines.

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From this little book it will be learned that Dr. Pierce's medicines contain no alcohol, narcotics, mineral agents or other poisonous or injurious agents and that they are made from native, medicinal roots of great value; also that some of the most valuable ingredients contained in Dr. Pierce's Favorite Prescription for weak, nervous, overworked, "run-down," nervous and debilitated women, were employed, long years ago, by the Indians for similar ailments affecting their squaws. In fact, one of the most valuable medicinal plants entering into the composition of Dr. Pierce's Favorite Prescription was known to the Indians as "Squaw-Weed." Our knowledge of the uses of not a few of our most valuable native, medicinal plants was gained from the Indians.

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For big growers. Most powerful machine made. 60 to 100 gallon tank for one or two horses. Steel axle. One-piece-heavy-angle-iron frame, cypress wood tank with adjustable round iron hoops. Metal wheels. "Adjustable" spray arms and nozzles. Brass ball-valves, plunger, strainer, etc. Big pump gives vapor spray. **Warranted for 5 years.** Try this machine at our expense with "your money in your pocket." See free offer below. Write today.

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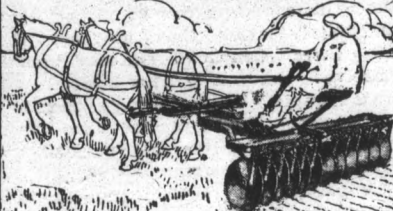
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Something New Gets twice the results with same labor and fluid. Flat or round, fine or coarse sprays from same nozzle. Ten styles. For trees, potatoes, gardens, whitewashing, etc. Agents Wanted. Booklet Free.

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RENOVATION OF FRUIT TREES.

Method Employed in Germany.

When I hear and see so much about "spraying of fruit trees," which is recommended as the best and safest means for destroying the animal and vegetable parasites, I recollect the experiences of my younger days.

The general complaint about the deterioration of fruit on trees raised in Michigan since a number of years, has troubled the farmers of my home country, (the southern part of Germany), about 60 years ago. The trees were covered with parasites and, altho blossoming profusely as a rule, in spring, the fruits became scarce and unmarketable. Many old trees were cut down, being more damaging on account of the shadow upon the land, than useful, means were devised to suppress the evil and the learned professors of the agricultural college were at work in their laboratories and made practical tests at the experimental stations endeavoring to find a safe remedy against the parasites.

The trees would be painted with lime, covered with cow manure and rings of tar or rosin, also spraying with chemical solutions and mixtures, altho not in the extensive manner recommended in this country.

In the decade 1840 to 1850, there was a young school teacher living and teaching the children in a village school about four miles from my home town. The man had a garden with a few fruit trees and, having a natural inclination for horticulture, he spent all his leisure time with garden work, thereby keeping an open eye and making observations about the result of his and his neighbor's work in planting, manuring, cultivating, pruning, the influence of climatic conditions, etc.

Our man was very successful in raising garden truck, but his trees were not better than those of his neighbors, they did not yield in harvest time what they had promised in spring, the fruits were not fully developed, and many were attacked by worms and parasites. This occurred especially in the old trees, while his young trees gave better results. Being a close observer of nature and from his studies in botany, he came to the conclusion that the failure of the old trees must be mainly ascribed to the prevailing custom of cutting away too many of the fruit bearing twigs along the main branches and thus spreading the trees to an unnatural width or height. This custom arose from the supposition that the fruits need plenty of air and sunshine and will ripen earlier in such exposed condition than in more bushy trees. But the teacher's observations would show that better fruits—altho retarded somewhat in ripening—are grown on the twigs near the stem, where they show more vitality than at the exposed ends. He found that the sun's rays, reflecting from well developed leaves, do more good than the rays falling directly on the fruits; in fact, that the direct rays are damaging to the fruit, as is experienced with grapes when the leaves fall prematurely. He explained the reason for the growth of the outer twigs from the fact that the sap has to travel too long a distance from the roots to the twigs and vice versa. The work of the sap in the cells of the stem and main branches is also encumbered. These cells will not develop fully and thus favor the growth and inhabitation of parasites on the surface, which becomes chinky and scaly, the proper condition for the attack of parasites.

Other disadvantages of too much spreading of the main branches are, that they will break down under the load of the fruits in favorable seasons or by the force of the wind or the load of snow and that the trees will suffer more by extreme heat or cold.

The teacher was convinced that he had found the source of the evil complaint and he went to work to remedy the same, using the means of a clever surgeon. He cut back the outer twigs of his trees and submitted the stem and the main trees to a thoro—not light—scraping of the bark, with a tool of his own idea. This tool consisted of a sharp edged triangular plate of steel bolted, at its center, flat to a wooden handle, the somewhat rounded, but also sharpened, corners of the plate being especially useful in cleaning the angles between the branches and the stem. The wounds caused by scraping and cutting were carefully covered with a warm mixture of tar and pitch, or resin, or tree-wax, as used in grafting. No painting or coating of any kind was used upon the scraped bark, because he had found that

the growth of a new bark would be hindered thereby.

By this method he succeeded in securing a growth of new bearing twigs on the depleted portions of the main branches thereby restoring the natural shape of the trees as much as possible. In some cases, where the stem or main branches had not become chinky, but when it was apparent that the bark enclosed the stem or branch so tightly that the cells could not develop and the sap was hindered in its circulation, he made a cut lengthwise thru the bark, thus giving the branches an opportunity to expand.

The result of this treatment was, that fully developed, sound fruits would grow and ripen and the crop increased.

He had easy work to keep his trees almost free from parasites by using his scraping tool and pruning knife judiciously and being assisted by the insect devouring birds, for which he provided breeding nests in the trees and at the house, as well as by planting hedges.

The work of the teacher was done in a quiet, unobtrusive way, altho his neighbors shook their heads when they saw the hacked trees. They prophesied that the trees must die, either by the cold in winter or by the heat in summer, and they called the man "treescavenger." But nothing of the kind happened, while the efforts of the teacher attracted the attention of the inspector of the royal castle, situated at the limits of the village, and noticing the good results of the teacher's work, he gave permission to treat the trees of the royal orchard, (in which many old trees were condemned to be cut down), according to the method of the teacher, thereby giving him ample opportunity to continue his experiments on a large scale and to gain experience about the best treatment of a variety of fruit trees.

The work had been carried on during more than a decade when the fruits of the royal and the teacher's gardens, shown at an exhibition of farm produce, attracted the attention of fruit growers and experts in horticulture and pomology. The fruits compared very favorably with other exhibits and won easily first prizes, while our simple teacher, the man who had accomplished so much, was recognized as an expert in pomology, and besides receiving the title of "professor," he was also tendered the position of "State Pomologist," a new office, created for the purpose of promulgating the new method by lectures and demonstrations thruout the state.

Attending one of the lectures delivered in my home town, I was persuaded of the correctness of the professor's ideas and during several weeks I accompanied him on his trips, acting as his assistant in the practical demonstrations. Returning home I went at once to work in treating the trees in my father's garden and field, having secured a duplicate of the professor's scraping tool. My father was somewhat skeptical about the work of a mere boy, but he had never to repent that he had permitted me to scavenge his trees, a work which I undertook with the zeal of the youth, cutting and scraping from daybreak to late evening, not thinking about the time for the meals until my mother would call me in.

I submit my experience to the farmers of Michigan in the expectation that they may profit by using the method as outlined above, with their old trees, of which many have suffered from too much cutting out, as have those in my own orchard, where I find main branches six to eight feet long without any fruit bearing twig.

I concede that judicious spraying will be useful against parasites which have invaded the country in masses, like the San Jose scale, but my cry is: Renovation of trees and proper care for the insect destroying birds, which will do much of the work better than can be accomplished by the most careful spraying. These birds ought to be recognized and treated as our best and most successful helpers in the battle, altho they will ask recompensation for their help by eating some of the fruit which they have protected.

Van Buren Co. A. H. HETTICH.

We often note grape vines overfed with nitrogen. Too much of that food element gives large growth, long internodes and scarcely any fruit while the plant is demanding not only all of the space allotted to it but much of that belonging to its neighbor. Potash and phosphoric acid should be added when growth is too rampant and in extreme cases some cereal grown that will take from the soil some of the nitrogen.

Silence



The instinct of modesty natural to every woman is often a great hindrance to the cure of womanly diseases. Women shrink from the personal questions of the local physician which seem indelicate. The thought of examination is abhorrent to them, and so they endure in silence a condition of disease which surely progresses from bad to worse.

It has been Dr. Pierce's privilege to cure a great many women who have found a refuge for modesty in his offer of **FREE** consultation by letter. All correspondence is held as sacredly confidential. Address **Dr. R. V. Pierce, Buffalo, N. Y.**

Dr. Pierce's Favorite Prescription restores and regulates the womanly functions, abolishes pain and builds up and puts the finishing touch of health on every weak woman who gives it a fair trial.

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You can't afford to accept a **SECRET** nostrum as a substitute for this non-alcoholic medicine of **KNOWN COMPOSITION**.

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My new oats and seed potatoes are the same high grade. Catalogue free. If you are interested in fruit, I will send you a nice plant—free.

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POULTRY AND BEES

GETTING TOP PRICES FOR EGGS.

I want to say a few words concerning the marketing of those brown and white eggs referred to by Mr. Gilbert some time ago. There are few flocks that will not produce eggs of both colors—brown and white. My flock consists of pure-bred Barred Plymouth Rocks, and yet the eggs are not all brown.

We use a small crate for local marketing which will hold twelve dozen. The eggs are sorted, the brown and the white being separated, and in packing we do not put them into the fillers haphazard. If the brown eggs predominate, we fill the center with them, making a border with the white, or vice versa. At other times, we fill the fillers by alternating the rows of white and brown. We have many times been complimented on the pretty effect of our packing and have never had any trouble in getting just as much for the white as for the brown. No distinction has ever been made.

But, to secure top prices, one thing is essential: No matter what the color, the eggs must be clean. Soiled and filthy eggs do not look very tempting to a purchaser. We have speculated a little at times in buying both butter and eggs, and sometimes the condition of things was not such as to tempt one's appetite. No matter what we put on the market—be it eggs, butter or other food products—it must be neat and attractive to secure the top price.

Oceana Co. JENNIE M. WILLSON.

EXPERIENCE WITH DUCKS—COSTLY AND OTHERWISE.

Some years ago I made a start in the duck business with a sitting of eggs placed under an ordinary hen, every one of which was fertile. When the first one pipped the shell she became so excited that she crushed him to death. The others hatched. I fed them the same as I did my chickens, a mixture of corn meal and middlings. In a day or two I let the hen out with them. Near the house was the outlet of the surplus water from the house. They went into this literally like ducks. I enjoyed seeing them play and they paddled as long as they wanted to. When they came out their down was soaked. As soon as the air struck them they began to shiver. In a few moments they tumbled over backward and two of them died before I could gather them up to warm them.

Here I learned my first lesson—never to let young ducks have unlimited access to water until they have developed some feathers that will turn water. A very warm day and very warm water might prove an exception, but I would not risk them even then.

I built a pen of 12-inch boards and put hen and ducks into this. One disappeared the first day. No trace could be found. The second day the old cat went with me to feed them. She was very meek but I turned around just in time to see her reach one dainty white paw over the board and hook up a duckling so quickly and quietly that the hen never noticed it. I remembered then that the cat had sniffed the air very earnestly when I had the wet ducklings in the kitchen. She never meddled with chickens or turkeys. Here was where I learned to beware of cats. They are as fond of young ducks as of mice.

A little later one disappeared at night. I laid it to the cat and shut them in a box closed too tight for a cat to get in. One disappeared just the same. Then I knew that I must look out for rats.

I had four left and they grew to be as large as doves and were becoming fledged when they began to have fits after eating. I lost another one before I learned that I was feeding too concentrated food and not enough gravel. I made the feed half vegetables or clover and kept gravel in the water pans and this enabled me to raise the last three.

Better Success the Next Season.

The next season I raised 50—nearly all I hatched. I hatched them with hens, took them away as soon as dry, yarded them in pens built of 12-foot boards, 12 inches wide, making the pens 12 feet square. Two pens held them while small. Later I had four pens. These were on grass and were moved as often as grass became foul. They had water to drink in pans with gravel in the bottom, and were fed at first three times a day—later

twice a day—on a mash of 2 parts bran, 1 part corn meal and 2 parts potatoes, clover or turnip tops, with a teaspoonful of salt for the whole quantity. Nights I put them in baskets and set them in a cat and rat proof place. When half grown I allowed them to go to the brook for a swim in the afternoon on sunny days. They grew well, were healthy and gave very little trouble. The land on which I penned them cut grass as high as a man's waist for several years after. The corn ration was increased toward killing time and they were killed as soon as their feathers were ripe, when they dressed off smooth and fine. If kept longer they soon become pin-feathery and lose weight.

Vermont.

H. L. HUNT.

WHY LEGHORNS ARE POPULAR.

Time is too valuable to waste on scrub poultry when good thoro-bred stock can be obtained as cheaply. Eggs from some reliable poultry raiser will furnish a start for a good flock. Poultry is bound to pay on the farm anyway, but why not make it pay better?

There is no question but the Brown Leghorn is one of the best laying breeds. That's their business. No one would ever



Buff Leghorn Hen—A State Fair Winner.

think of calling them good sitters as a class, but the up-to-date poultry raiser doesn't expect to have his hens take two months right out of their busy season for the purpose of bringing a few chicks just to the stage where they make good hawk dinners. An incubator properly managed will hatch enough chickens for the hawks and still have plenty left.

Leghorns do not succumb to lice so quickly because of their more active habits. They will not readily take on too much fat, as do some of the larger breeds. That is one great trouble with any large breed of poultry on a farm. Nearly every farmer is feeding corn to hogs most of the time and the hens are always there. As a natural result they get too fat to lay. The Leghorn may have access to corn at all times but fowls of this breed take sufficient exercise to keep in good condition. By this I do not mean that they should be fed corn entirely because they do much better when fed part wheat. Of the rose and single comb varieties I prefer the rose, as the combs will not frost so easily.

Since I have had an incubator I have had one hatch, about April 1 each year, of Leghorns. These early pullets begin laying about September 1 and lay all winter. The cockerils are crated and shipped, in July, to a reliable commission merchant and bring what they happen to be worth at the time, possibly 15c per lb. If you don't want to try an incubator, keep a dozen good old mothers of some other breed.

Barry Co.

K. T.

POSSIBILITIES IN SQUAB RAISING.

In many parts of the east the raising of squabs for market is quite a profitable industry. The idea does not appeal strongly to the lover of animals, for the domestic little creatures make such attractive pets and the taking of their young in this wholesale manner seems a slaughter of the innocents, but from a commercial point of view it is quite alluring. After the expenditure of \$2 or \$3 for a pair of well-bred birds, the arrangement of a suitable shelter for them, and the precaution taken of providing a well screened yard, within a year the parent birds, provided they had attained the mature age of eight months when obtained, will have welcomed within their nest from 16 to 20 young, in broods of two at a time, and before the second year has gone they will have become great grand-parents to the third and fourth generations. Considering

that the breeding period goes on for ten years, it is not hard to reckon that an investment of less than \$5, plus an expenditure for wheat, corn and oyster shells, it is possible to ship to the market annually 200 squabs commanding a wholesale price somewhere in the neighborhood of 50c per pair.

The cost of feeding a squab is very small, for besides being the most prolific breeders known to natural scientists, the mother pigeon is so intensely maternal that she nourishes her young herself, injecting by means of her bill, a fluid into the bill of the young birds. This peculiar process of feeding continues until the baby bird is between three and four weeks old, and when it ceases the young one has been pushed from the nest by its parents, who think it high time the fledgling was taking care of itself. Then the squab age has passed and the life of the young pigeon has begun.

One law of nature which pigeons share in common with other winged creatures is that the eggs laid by one bird cannot be placed under another mother for hatching and have success attend the issue, for by a strange provision of nature the mother bird is ready to feed her baby only after a certain length of time from the date of laying her eggs, and, if eggs are placed under a bird whose own eggs were laid earlier or later than the adopted eggs, the food will not be right and the hatched birds will starve to death.

New Jersey.

C. A. UMOSALLE.

TREATING QUEENLESS AND WEAK COLONIES—OTHER TIMELY QUESTIONS.

I have closely followed your bee department and have received much benefit from it. Am making bees a side line and have succeeded fairly well with my little apiary of seven swarms which I have caught and bot in the last two years.

What should I do in case I find a colony without a queen in the spring? Can I supply brood from another colony and thus put them in condition to grow a queen? I am inclined to believe my queens are quite old, some must be three years old, and maybe more, and are liable to come up missing.

How can I increase the size of my colonies, they being only about two-thirds as large as an expert bee man's? I believe the largest swarm I had last year was about the size of a half bushel. Can I, after having the first swarm of the season, put the second swarm with the first by smoking them quite hard, and return the queen to the hive from which it came?

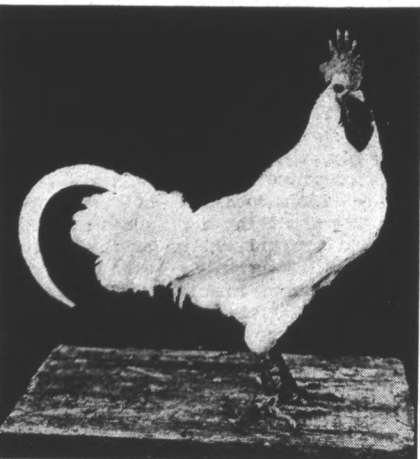
All hives I have have bottom boards fastened to them. Is this best or merely a notion, and is it better to set the feeder over the hive or under?

Can I, after the honey flow of the season is about over, (that is, after white clover honey is about in), give the bees a new super containing boxes filled with foundation and by feeding them have the bees draw the comb and partly fill it; then let them take the honey and feed from the cap to the brood chamber for winter; then remove super and store carefully until needed in spring when, as first honey flow starts, let them fill and cap, thus saving the bees time and honey in time of a rush, or is such a project nonsense?

Hillsdale Co.

SUBSCRIBER.

A queenless colony, in the spring, if looked at from a financial standpoint for the coming honey crop, should be provided with another queen in the quickest



S. C. White Leghorn Cock.

possible way by sending to some reliable southern queen breeder. For 75 cents or one dollar, a good, young, untested queen can be bot, which should come to you by return mail. This queen can then be introduced into the queenless colony and in a short time will begin laying, thus supplying drone bees to carry on the work of the colony before all the old ones on hand have died off. A queenless colony can be successfully requeened by being given a frame of partly uncapped brood, but it takes time

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Purify your blood and you give nature the means to successfully fight all manner of disease. Calcium Sulphide is one of the ingredients from which Stuart's Calcium Wafers are made, and it is the strongest and most powerful blood invigorator known to science. This wonderful purifier is endorsed by the entire medical profession and is generally used in all doctor's prescriptions for the blood and skin.

Stuart's Calcium Wafers peculiarly preserve the strength of Calcium Sulphide better than other methods—thus giving the most rapid cures owing to the purity of the ingredients and their freedom from decay, evaporation and chemical weakness caused by many latter day modes of preparation. Stuart's Calcium Wafers are sold by every druggist. Price 50c, or send us your name and address and we will send you a trial package by mail free. Address F. Stuart, 175 Stuart Bldg., Marshall, Mich.

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Now that the Fire Insurance Companies have laid down Rules you are not safe in buying any incubator that does not bear the Insurance Label. Our Free 212-Page Book explains. Address Nearest Office. **CYPHERS INCUBATOR COMPANY, BUFFALO, N. Y.** Boston, Mass.; New York City; Chicago, Ill.; Kansas City, Mo.; Oakland, Cal.

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and Almanac for 1909 contains 220 pages, with many fine colored plates of fowls true to life. It tells all about chickens, their care, diseases and remedies. All about incubators and how to operate them. All about poultry houses and how to build them. It's really an encyclopedia of chickendom. You need it. Price only 15c. **C. C. SHOEMAKER, Box 594, FREEPORT, ILL.**

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for the bees to go on, draw out queen cells and hatch them. And then, worst of all, real early in the spring there are very few drones in the apiary and the successful mating of these early queens is a game of chance. You may not get a laying queen after all your time and trouble. If you do get one she is apt to have so few bees left alive in the hive to attend her that it is very seldom a colony so treated ever build up strong enough to make any surplus honey, at least not before the fall flow of dark honey arrives. Thus we have lost all the clover and basswood which we might have had if we had provided them with a laying queen just as soon as we found they were queenless. Excepting where it is desired to keep a queen for a breeder of more queens, do not let her get over two years old, and some of the most successful bee-keepers I know requeen every one of their colonies in July or August of each year.

Increasing the Strength of Colonies.

You can increase the size of your colonies in many different ways. First, be sure that your hives are no smaller than an eight-frame Langstroth, and see that you have very little drone comb in the six inside frames. Be sure to introduce new blood into your apiary each year, that is, buy a few queens of a good reliable queen breeder. Be sure each colony has a prolific queen. There is just as much difference in different colonies of bees producing honey as there is in cows producing milk. Then last, but not least, feed early in the spring—not too much but constantly until the flowers come, and thereby breed them up so as to have lots of bees in the hive. See that there are no cracks in the hive where the cold can get in and the heat get out. Hatching bees is similar to hatching chickens. A uniform heat must be maintained or the end of the period will bring disappointment.

Yes, you can put four swarms together if you want to, but if two or three days elapse between the time you hive your first swarm and when you wish to put your second swarm with them, you are very apt to see a good lively scrap if you simply catch the queen and shake the swarm in front of No. 1, with the result that part of the bees in both swarms will be killed and nearly all of swarm No. 2 will return to the parent colony. It is much better to place a thickness of newspapers over the frames of No. 1 and set on a hive body containing two or three brood frames on one side. Then shake swarm No. 2 into this upper hive body and put on the cover quickly. By the time they gnaw thru the paper between the two swarms they will smell too nearly alike to quarrel much, and if there is a good honey flow on, both queens may go on and lay for some time. However, the fittest of the two will survive eventually and the other will come up missing. Then you may go back to the parent colony and cut out all queen cells but one, which should be left to provide them with a queen and, to make sure that they get one, look in the hive at the end of a week's time after you have removed the queen cells, and see if there is any uncapped worker brood. If there is not you have another case of queenless colony to attend to.

Detachable Bottom-Boards Considered Preferable.

Hives with bottoms nailed on are very unhandy. I would not advise anyone to use them. I always remove such bottoms with a sharp, thin cold chisel, cutting the nails which hold the bottom board to the hive body. Then, after getting the bottom loose, I tack a 3/4-inch frame on it just the right size for two sides and one end of the hive body to rest upon, leaving an entrance 3/4-inch wide clear across the other end of the hive. This entrance may be contracted by the use of two small blocks, one at each end, which may be shoved up so as to make the entrance the size best suited to the needs of the colony or the weather. The smaller the colony and the colder the weather the smaller should be the entrance, and vice versa.

I prefer feeding from below at night, with warm sugar and water, equal parts. This lets the heat and smell of the syrup go up to the bees above and causes them to take it up more readily; but be sure not to rig up something that will drown half of the colony, as I did once to my sorrow. I should not try feeding to make the bees draw out combs. It costs too much and is unpractical. Feed in the spring to raise more bees and in the fall let what you feed go direct into brood frames for winter stores.

Jackson Co. L. D. HUFFMAN.

IN ANSWER TO INQUIRIES.

I would like a little advice about moving bees. I have 10 colonies to move a distance of five miles. They are packed in chaff in a large box made of inch lumber. Would it do to load the box on a sleigh and thus move them in cold weather, or would it be better to unpack the hives and move them on a wagon in warm weather.

Grand Traverse Co.

K. S.

Since the colonies are packed as they are it will be far less trouble to move them now rather than wait for warm weather. It will also be entirely safe, as the absence of protracted cold spells this winter has made it possible for bees to take frequent cleansing flights. They should therefore be in condition to move at almost any time, altho the trip should not be begun in the middle of a mild day unless the precaution of closing the hive entrance with netting, or a loose-fitting block, was taken the previous evening. The best time would probably be shortly after a day on which they have enjoyed a good flight. If the colony is populous the combs will be sufficiently warmed by the bees to be safe from breaking with ordinary careful handling on a cold day. On such a day the entrances may be almost entirely closed.

Some consider it quite advisable to move bees, where moving is necessary during cold weather, and so it is if the conditions are good. However, in a long protracted winter, when the bees have no occasion for flight during a number of weeks, their intestines may become loaded with excrement which they must discharge in the open air. If a long disturbance is caused, many of them will find themselves compelled to unload their bowels within the hive, and the result will be disastrous. Yet, if the food has been good well-ripened clover honey or some equivalent, there may be no such danger, as good food will not overload their intestines to a damaging extent, unless several months of extreme cold weather have passed without a flight.

THE BLACK JAVAS.

I would like to know how the Black Java fowls compare with other breeds as a general purpose fowl and for winter laying? Where can a cockerel of this breed be procured at a reasonable price? Antrim Co. W. H. WELCH.

While not raised extensively at present, the newer breeds having apparently supplanted it in popularity, this breed at one time ranked high among the practical profit-making breeds or varieties of poultry. It is the oldest of the breeds included in the so-called American class and the fact that it is so classified means that it is considered a general purpose breed. In size the Black Java corresponds closely to the Plymouth Rock, altho differing from it somewhat in general symmetry and appearance. In fact, the blood of the Java was used quite freely in developing the breed now known as the Plymouth Rock. The Javas are considered good winter layers, while as producers of market poultry they are also very satisfactory. The standard weight for the cock is 9 1/2 lbs. and for the hen 7 1/2 lbs.

As to where breeding stock of this variety can be secured we have no information further than that furnished by our advertising columns.

A PAYING FLOCK.

I am sending a report of my poultry operations for 1908. The average number of hens kept during the year was 124, and the number of eggs secured, 9,878. Average price received for eggs was 17 1/2 c per doz. Number of eggs used for sitting, 161; number of chickens hatched, 154; number of chickens raised, 125. Amount realized from sales of chickens, young and old, \$39.83; from sales of eggs, \$140.21, a total of \$180.04. I also kept 12 old turkeys from which I secured 190 eggs for hatching. From these there were hatched 150 young turkeys, 106 of which were raised and sold, the amount realized being \$218.88, thus making the gross returns from the poultry yard for the year aggregate \$398.92. I. E. W.

FREE TO FARMERS.

By special arrangement Ratekin's big 1909 seed catalog, with a sample of "Diamond Joe's Big White" seed corn that made 153 bushels per acre, will be mailed free to all readers of this paper who are interested in the crops they grow. This big book tells how to make the farm and garden pay. It's worth dollars to all who plant or sow. Write for it and mention this paper. The address is Ratekin's Seed House, Shenandoah, Ia.



PROTECTION

is something we all need at one time or another.

There was a time when, in order to secure protection properly, it became necessary for someone to be on guard all of the time.

In a certain sense this day has passed; it is true that valuables are not really safe when left lying around the house, not so much for fear of some robber band raiding the neighborhood, but on account of fire, sneak-thieves, and other forms of loss.

Then again, we have the convenience of Safety Deposit Vaults, which guard and protect your papers in the safest place obtainable.

The Simon J. Murphy Company, owning and operating the Penobscot Vaults, are the originators of the system of Safe Deposit by Mail, and the success they have met with is proof beyond question of the reliability of the methods used by them.

Drop us a line for free booklet and full particulars.

PENOBSCOT SAFE DEPOSIT VAULTS, S. J. Murphy Co., Detroit, Mich.

HOG, POULTRY & SHEEP TROUGHS

\$1.50, \$2.25, \$2.75, Etc. "Made of Heavy Boiler Steel 1-8 in. Thick" So strong no beast or animal can break or injure, substantially riveted, clean and sanitary. Guaranteed to last a lifetime. No expense for repairs. Poultry and pig trough—\$1.50 each or 5 for \$7.50, we pay the freight. Hog and sheep troughs—\$2.25 and \$2.75 each, we pay freight on 3 or more. You can not afford to miss this great bargain. Write for free descriptive circular. **FULTON SUPPLY COMPANY, -a. l.-553 Fulton Street, Chicago, Illinois.**

RED BABIES—Rhode Island Reds 15c, 10c, 100c Price winners Chicago, Cleveland, Indianapolis, Detroit. Barred Rock, Black Minorca, Leghorn chicks 10c, \$10 per 100. Prompt, safe delivery. **EDWIN R. CORNISH, Edwardsburg, Mich.**

Michigan Best White and Golden Wyandottes, Barred Rocks, Rhode Island Reds, Rose and Single Comb White, Brown, Buff Leghorns, S. B. Hamburgs, Bronze, White and Buff Turkey Toms, \$4.00 each. Toulouse, Embden, Gray African, Brown and White China Geese. All varieties of ducks. **E. J. HASKINS, Pittsford, Mich.**

Barred Plymouth Rocks—Eggs for hatching. Price, 15 for \$1.25 for \$1.50; 50 for \$2.50; \$4 per hundred. Satisfaction guaranteed. **Colon C. Little, Coopersville, Mich.**

BARRED PLYMOUTH ROCK & White Wyandotte Cockerels for sale at reasonable prices. **E. D. BISHOP, Route 38, Lake Odessa, Mich.**

EGGS—M. B. Turkey, Pekin Duck, Bar. Rock. Also M. B. Turkey Toms. **HUPP FARM, Birmingham, Mich.**

White Wyandotte Cockerels from A. 1 laying stock only a few left. Price \$1 up each. **A. Franklin Smith, Ann Arbor, Mich., R.R.9.**

White Wyandottes—Eggs for hatching. Price, 15 for \$1.25 for \$1.50; 50 for \$2.50; \$4 per hundred. Satisfaction guaranteed. **Colon C. Little, Coopersville, Mich.**

BUFF ROCK COCKERELS—Healthy, handsome. Farm raised. Good size and color. Price \$1 up. **WILLIS S. MEADE, R. No. 3, Holly, Mich.**

SINGLE COMB WHITE LEGHORNS—Eggs for hatching. Price, 15 for \$1.25 for \$1.50; 50 for \$2.50; \$4 per hundred. Satisfaction guaranteed. **Colon C. Little, Coopersville, Mich.**

SILVER, Golden and White Wyandottes. A nice lot of good cockerels still left. Satisfaction Guaranteed. **C. W. Browning, Portland, Mich.**

Single Comb Black Minorca Cockerels for sale. A few choice pullets also. **R. W. MILLS, Saulte, Mich.**

PURE White Holland Turkeys—healthy farm raised. Kind that stay at home. Prices right. **Mrs. Mae Whitbeck, "Two Pines," Montague, Mich.**

DOGS.

FOX AND WOLF HOUNDS

of the best English strains in America. 40 years experience in breeding these fine hounds for my own sport. I now offer them for sale.

Send stamp for Catalogue. **T. B. HUDSPETH, Sibby, Jackson Co., Mo.**

COLLIES—Bred bitches and puppies for sale. Stud dogs for service. **W. J. ROSS, Rochester, Mich.**

TELL the advertisers when writing that you saw their ad. in the Michigan Farmer.

MARKETS

DETROIT WHOLESALE MARKETS.

February 24, 1909.

Grain and Seeds.

Wheat.—The wheat market is active and higher. The home situation is favorable to higher values, but the chief strength that gave the bulls courage to lift prices was from Europe where, in spite of the heavy shipments, prices are advancing. The crop of India promises to be almost a failure and the exports from Argentina are about to the end of the heavy deliveries which causes the exporters to take everything they can get hold of. The political disturbance in Europe is, also, credited with adding firmness to the market. All the leading markets of the northwest show bullish tendencies. One year ago the price paid for No. 2 red wheat was 99c. Quotations for the past week are:

	No. 2	No. 1	No. 3	Red.	White.	Red.	May.	July.
Thur.	1.18½	1.18	1.15½	1.17	1.03½			
Fri.	1.18½	1.18	1.15½	1.17½	1.03			
Sat.	1.22	1.22	1.19	1.19½	1.04½			
Mon.								
Tues.	1.22	1.22	1.19	1.19½	1.04½			
Wed.	1.22½	1.22½	1.19½	1.21	1.06			

Corn.—The corn market has followed the trend of the wheat trade and prices are advanced with firmness prevailing at the improved figures. The weather has been largely responsible for the strength since the roads in the corn belt are poor, thus preventing the farmers from getting their corn to the local elevators. The improved condition of the wheat deal, also, lent much support to this part of the grain business. The demand continues good but limited over former years because of the high prices. The selling price for No. 3 corn a year ago was 58½c. Quotations are:

	No. 3	Yellow.
Thursday	65½	66½
Friday	65½	66½
Saturday	66½	67½
Monday		
Tuesday	66½	67½
Wednesday	66½	67½

Oats.—Market is firm with prices on about last week's level. The advance in wheat and corn did not improve prices for oats. The news of the week gives the trade a firmer tone. Stores are shorter by considerable than usual at this season and holdings by farmers are far less than in the average year—the Illinois crop report giving the amount in farmer's hands as 15 per cent less than what they held at this time a year ago. At this date in 1908 No. 3 white oats were selling at 54½c. Quotations for the past week are:

	No. 3	White.
Thursday	55½	56½
Friday	55½	56½
Saturday	56	57
Monday		
Tuesday	55½	56½
Wednesday	55½	56½

Beans.—The same situation faces the buyers of beans as prevailed last week. After advancing bids they are unable to make contracts. The price has gone up about 5c during the week but the sales are small and few at the better figures. Holders appear to be confident that the supply is short. Quotations for the week are:

	Cash.	May.
Thursday	\$2.35	\$2.40
Friday	2.40	2.45
Saturday	2.40	2.45
Monday		
Tuesday	2.40	2.45
Wednesday	2.40	2.45

Cloverseed.—The farmers who are compelled to buy seed for seeding purposes are delighted to see prices keep down. During the past week trading was done at quotations 15 cents below those quoted the week before. The trade is quieter. Following are the ruling prices:

	Prime Spot.	Mar.	Alsike.
Thursday	\$5.40	\$5.40	\$7.50
Friday	5.40	5.40	7.50
Saturday	5.35	5.35	7.75
Monday			
Tuesday	5.35	5.35	7.75
Wednesday	5.35	5.35	7.75

Rye.—In good demand at a 1c advance. Quotation for cash No. 2 is 81c.

Visible Supply of Grain.

	This week.	Last week.
Wheat	39,968,000	41,472,000
Corn	6,464,000	6,665,000
Oats	9,361,000	9,607,000
Rye	675,000	786,000
Barley	3,503,000	3,911,000

Flour, Feed, Provisions, Etc.

Flour.—Prices advanced for all grades. Quotations are as follows:

Clear	\$5.50
Straight	5.65
Patent Michigan	6.10
Ordinary Patent	5.75

Hay and Straw.—Prices unchanged. Carlot prices on track are: No. 1 timothy, new, \$10.50@11; No. 2 timothy, \$9.50@10; clover, mixed, \$9@10; rye straw, \$7@7.50; wheat and oat straw, \$6@6.50 per ton.

Feed.—Prices are higher for most feeds. Bran, \$28 per ton; coarse middlings, \$29; fine middlings, \$31; cracked corn and coarse corn meal, \$27@28; corn and oat chop, \$25.

Potatoes.—While there was an easier feeling in the potato market early this week the general attitude of the trade is firmness. Good stock is quoted at 85@90c per bu.

Oils.—Linseed in barrels, 56c per gal; boiled, 57c; lard oil, extra winter strained, 83c; extra No. 1, 60c; No. 1, 56c; No. 2, 54c; headlight kerosene, 9c; turpentine by the bbl., 46½c per gal.

Provisions.—Family pork, \$17.25@17.75; mess pork, \$16.50; light short clear, \$18.25; heavy short clear, \$18.25; pure lard in

tierces, 10½c; kettle rendered lard, 11½c; bacon, 13c; shoulders, 8½c; smoked hams, 11@11½c; picnic hams, 8c.

Hides.—No. 1 green, 9c; No. 2 green, 8c; No. 1 cured, 11c; No. 2 cured, 10c; No. 1 green kip, 11c; No. 2 green kip, 9½c; No. 1 cured calf, 16c; No. 2 cured calf, 14½c; No. 1 horsehides, \$8.25; No. 2, \$2.25; sheepskins, as to wool, lambs, 50c@1.50.

Dairy and Food Products.

Butter.—There has been no changes in the butter situation and values are about as they were a week ago. Quotations: Extra creamery, 30c; firsts, 28c; packing stock, 18c; dairy 20c.

Eggs.—The egg trade has been on the decline the past week, the price being 7c lower than it was as many days ago. Receipts from the southwest and from Michigan have increased heavily. Fresh stock is quoted at 22½c per dozen.

Poultry.—Receipts were more liberal the past few days and values are lower. Dealers are expecting that supplies will keep on increasing. Quotations: Dressed chickens, 15@15½c; fowls, 14@14½c; ducks, 13@16c; geese, 13@13½c; turkeys, 20@22c. Live—Spring chickens, 14c; fowls, 13@13½c; ducks, 14@14½c; geese, 11@12c; turkeys, 19@20c per lb.

Cheese.—Michigan, old, 15c; do. new, 15½@16½c; brick cream, 16½@17c; schweitzer, 18c; limburger, 16c per lb.

Fruits and Vegetables.

Apples.—Market firm. Best grades are quoted at \$4.75@6 per bbl. Western apples in bushel boxes, \$2.25@3.25.

Onions.—Spanish, \$1.90 per bu; home-grown at 80c per bu.

Cabbage.—Home-grown selling at 3c per lb.

Vegetables.—Green onions, 15c per doz; radishes, 30c per doz; cucumbers, \$2.25@2.50 per bu; lettuce, 16c per lb; head lettuce, \$3 per hamper; beets, 45c; turnips, 40c; carrots, 50c; watercress, 40c; per doz; celery, 35@40c; spinach, \$1 per bu; parsnips, 60c per bu.

OTHER MARKETS.

Grand Rapids.

No special change is noted in the potato situation, tho as the spring draws near there is talk to the effect that the storage stock is pretty well exhausted. It is hard to get at the true situation in this matter. Prices up state range from 65@75c, and it is still believed by many that the supply held in storage is large. Michigan apples are practically exhausted and dealers are quoting York State stock at \$5@6 per bbl. Wheat continues to soar and most other grains are higher this week. Eggs have slumped and are sure to go lower unless the weather turns extremely cold. Dressed hogs are off ½c. Cabbage is high, being sold wholesale at 3c per head. Glass farmers are doing well with lettuce and radishes this winter.

Quotations follow:
Grains.—Wheat, \$1.17; corn, 68c; oats, 55c; buckwheat, 75c per bu; rye, 75c.

Beans.—Handpicked, \$2.10 per bu.
Butter.—Buying prices, Dairy, No. 1, 22c; No. 2, 17c; creamery in tubs, 30c; prints, 30½c.

Cheese.—Michigan full cream is selling at 15@16c per lb; brick, 17c; Swiss, 17c; limburger, 17c.

Eggs.—Case count, 22c; candled, 24@25c.

Apples.—New York, \$5@6 per bbl.

Potatoes.—70@75c per bu.

Cattle.—Cows, \$2.50@3.50 per cwt; steers and heifers, best quality, \$3@5; dressed mutton, 7@8c; dressed veal, 7@9c; dressed beef, cows, 5@6½c; steers and heifers, 6@8½c.

Hogs.—Dressed, 8½@8¾c.
Live Poultry.—Fowls, 12½@13½c; young chickens, 13@14c; roosters, 9@10c; turkeys, 18@19c; young ducks, 13@14c; geese, 9@10c; capons, 19@20c.

Chicago.

Wheat.—No. 2 red, \$1.20@1.23; May, \$1.15½; July, 1.01½.

Corn.—No. 3, 63½@63¾c; May, 65½c; July, 64½c.

Oats.—No. 3 white, 53¾@54¾c; May, 53¾c; July, 48½c.

Butter.—Steady. Creameries, 22@28½c; dairies, 21@25c.

Eggs.—Weak and much lower. At mark, cases included, 20@21½c; firsts, 22c; prime firsts, 23c.

Potatoes.—Higher. Car lots in bulk. Fancy, 85@87c per bu; ordinary to good, 80@83c.

Pittsburg.

Potatoes.—Michigan, 83@85c; in small lots, 85c.

Apples.—Higher. King, \$6.50 per bbl; Spy, \$5@5.50; Spitzenburg, \$5@5.50.

Poultry.—Steady. Live. Turkeys, 20c; spring chickens, 15c; hens, 15c; ducks, 16c.

New York.

Grain.—Wheat, No. 2 red, \$1.21½; corn, No. 2, 74c; oats, mixed, 56½@57½.

Eggs.—Market firm. Western firsts, 34c; seconds, 33@33½c.

Butter.—Steady and higher. Creamery specials, 31@31½c; western factory firsts, 21@21½c.

Potatoes.—Western, in bulk, per 180 lbs., \$2.25@2.37.

Hay.—Timothy, prime, \$17.50; do. other grades, \$13.50@16.50; shipping, 12@12.50; clover and clover mixed, \$11@15; rye straw, \$21@22.50; do. short and tangled, \$13@14 per ton.

Poultry.—Dressed, quiet; western spring chickens, 14½@16c; turkeys, 16@23c; fowls, 14½@16c.

Boston.

Wool.—The stock of old wool is being reduced to a minimum. This makes so little trading possible that the dealers are turning their attention to the new clip and to foreign consignments. The prices are very firm. Quotations for the leading domestic grades are: Ohio and Pennsylvania fleeces—XX, 34@35c; X, 32@33c; No. 1 washed, 38@39c; No. 2 washed, 38@39c; fine unwashed, 23@24c;

half-blood combing, 30@31c; ¾-blood combing, 30c; ¾-blood combing, 29@30c; delaine washed, 38@40c; delaine unwashed, 30c. Michigan, Wisconsin and New York fleeces—Fine unwashed, 22@23c; delaine unwashed, 27@28c; ¾-blood unwashed, 28@29c; ¾-blood unwashed, 28@29c; ¾-blood, 28@29c.

Elgin.

Butter.—Market is firm at 30c per lb.

Other Potato Markets.

Cleveland.—White stock, 80@85c per bu.
St. Louis.—Average offerings higher, 90@1 per bu.
Philadelphia.—For good offerings, 80@82c.

THE LIVE STOCK MARKETS.

Buffalo.

(Special report by Dunning & Stevens, New York Central Stock Yards, East Buffalo, N. Y.)

February 22, 1909.

Receipts of sale stock here today as follows: Cattle, 100 loads; hogs, 18,000 head; sheep and lambs, 22,000; calves, 1,000.

A few of the early sales on the light butcher stuff were about steady with last week but later in the day the market became dull and draggy and prices dropped off from 10@15c per hundred. The good heavy cattle are meeting with very poor demand at the present time. A few very good loads on the market today sold from \$6@6.25. Shippers generally don't understand that there is no outlet here for export cattle. No cattle can be shipped from here at the present time for export. No doubt this is one of the causes for the dull demand for heavy weight cattle but the demand seems to be bad on all markets west of us. Heavy cattle are neglected.

We quote: Best steers, \$6@6.40; best 1,200 to 1,300 lb. shipping steers, \$5.50@6.10; best 1,000 to 1,100 lb. shipping steers, \$5.40@5.85; best fat cows, \$4@4.75; fair to good, \$3.75@4; trimmers, \$2.25@2.75; best fat heifers, \$5.25@5.75; butcher heifers, 800 to 900 lbs., \$4.25@4.75; light fat heifers, \$3.25@4; best bulls, \$4.50@5; bologna bulls, \$4@4.50.

With warm weather here and heavy receipts in the west there was a lower feeling and at the close there are a few loads going over unsold.

We quote: Best mixed, medium and heavy, \$6.60@6.75; best yorkers, \$6.50@6.65; light yorkers, \$6.35@6.50; pigs, \$6.25@6.30; roughs, \$5.70@5.75; stags, \$4.25@4.75.

The lamb market today was about the same as Saturday. The handy weight lambs are all cleaned up but the heavy ones are in poor demand and there are a few unsold tonight. There is no export demand for them at all. We look for a little better price the balance of the week on the handy kinds.

Top lambs, \$7.75@7.85; fair to good lambs, \$7.40@7.70; cull lambs, \$6.25@7.25; skin culls, \$5.50@6.25; yearlings, \$6.50@7; wethers, \$5.75@6; ewes, \$5@5.50; cull sheep, \$3.50@4.50; best veals, \$10@10½; medium to good, \$7.50@9.75; heavy, \$4@5.

Chicago.

February 22, 1909.

Cattle.

Cattle. Hogs. Sheep.
Received today 19,000 47,000 18,000
Same day last year .. 25,685 57,256 22,534
Received last week .. 57,168 192,424 64,040
Same week last year .. 70,951 195,765 65,412

Cattle were marketed last week with altogether too much freedom for a time when the consumption of beef is so seriously curtailed by its dearthness, and trade was almost uniformly dull, with prices constantly weakening except an occasional steady and an early small advance. Prices averaged 25@40c per lb. lower than at the close of the previous week, and steers went chiefly at \$5@6.30, sales of the best class of heavy shipping steers at \$6.50@7 cutting but a small figure. The poorer class of light-weight killers sold at \$4.25@5, and short-fed steers that could be bot between \$5 and \$6 were the favorites with most buyers. Good cattle sold below \$6, and long-fed, high-priced cattle were slower than the cheaper short-fed consignments. Butcher stock was apt to sell relatively better than steer cattle, but even these declined sharply before the close, selling at \$3.15@5.65 for cows and heifers. Canners and cutters had a fair sale at \$1.75@3.10, while bulls sold at \$2.90@5. Calves were scarce and higher, with sales as high as \$9 per 100 lbs. for prime light lots, while coarse heavy ones sold around \$3.50@4.50. The stocker and feeder trade has shown animation at times and comparative slowness at others, sales ranging at \$3@5.60. Evidently, the bad market for fat finished cattle had a bad effect on the demand for cattle to send to feeding districts part of the time at least.

Milkers and springers were in fairly good request at \$20@60 per head, the best inquiry coming from Ohio and New York.

The cattle receipts today were unusually small for a Monday, and sales were largely 10@15c higher, but the demand for steers was not very large. At a late hour no sales had been made above \$6.55.

Hogs were marketed last week in small largely increased volume that it was frequently impossible for sellers to keep prices from declining, and the packers were in a position to fill a good many of their orders on a much reduced basis.

Hogs were largely good in quality, while still greatly deficient in weight, the recent receipts having averaged but 205 lbs., compared with 212 lbs. a year ago, 222 lbs. two years ago and 214 lbs. three years ago. Weight continued to command a premium, altho the spread in prices was much narrower than it was several weeks ago. Eastern shippers were the best support the market had, and after their early daily purchases of the better class of hogs the Chicago packers entered the market late and purchased the less attractive droves on a lower basis. So far as can be seen, there

is a good prospect that hogs will sell at good prices in the near future, and small receipts would be likely to result in \$7 for prime heavy hogs. Healthy pigs should be kept at home. Hogs sold today at \$5.95@6.45, with an early sale at \$6.50. A week ago sales were made at \$6.10@6.65.

Sheep and lambs were marketed with more freedom during most of last week than usual, and it was not always possible for live stock commission firms to make as good bargains in selling consignments as country shippers had expected. There was so poor a showing of prime grades, however, that these were apt to sell well, and this was particularly the case as regards fat lambs and prime light-weight yearling wethers on the lamb order. Feeders were also good sellers, with sales of feeding lambs at \$6.25@7.20, feeding wethers at \$4.85@5.10, and feeding yearlings at \$5@5.85. There was a steady market today, lambs selling at \$5@7.75, ewes at \$2.50@5.40, wethers at \$5@5.75, yearlings at \$5.50@7, and rams at \$3@4.50.

Horses are being marketed this month in larger numbers than a year ago, and there is a growing tendency upon the part of numerous country shippers to furnish an unduly large percentage of common animals. This results in lower prices for such animals at a time when good horses are selling quite satisfactorily. Farm mares and chunks are the most active class, selling at \$130@175 per head, and there is also a freer demand than usual for mules at \$75@200. Eastern buyers are taking heavy draft horses at \$170@225, and occasionally a higher figure is obtained. Drivers are fairly active at \$150@350.

LIVE STOCK NOTES.

Buying cattle for the feed lot is becoming more of a science than ever before, and there is much less of the haphazard buying than there used to be, as up-to-date stockmen realize that cattle feeding has ceased to be an easy matter. Of course, all kinds of farmers are in the business, and there are failures and winners, but more caution is exercised in making selections by the average buyer than formerly. Cattle in the stocker and feeder classes are offered at all kinds of prices, ranging in the Chicago market from around \$3 per 100 lbs. up to \$5.60 for the best. The bottom figure is paid for very inferior little stockers and the highest price for heavy feeders that are well-bred and require but a short feed to bring them up to the top-notch of finished heavy beefs. When a buyer pays \$5 and upward he is competing with killers for cattle that are already pretty fair killers, and not many feeders are selling around top figures. The conservative stockman is apt to steer clear of extremes in prices and to buy medium-priced cattle that can be matured as good fat cattle in a reasonably short period. Long feeding no longer pays, and paying fancy prices for feeders is dangerous at a period when hardly any buyers want high-priced beefs. In buying cattle to feed it is highly important that steers should be selected that are fitted by breeding or conformation to be made into prime beef at the age of fifteen to eighteen months, for the popular demand these times is for baby beef. The buyer should be a good judge of cattle, and it is a good plan when the feeders are purchased in the open market to get a first-class livestock commission firm to buy them and pay the usual commission for the service. The dearthness of feed at this time renders extra precautions in buying doubly necessary.

The demand in the Chicago and other western markets for feeder lambs is very strong, and extremely high prices are paid for the choicer offerings, which are very scarce. There is also a strong demand for feeding wethers, and these, too, command high prices. Every year there are many belated sheepmen who are not smart enough to fill their feed lots at the proper time when prices are hanging around their lowest figures, and, after waiting to see how things are going, many of them enter the market and pay absurdly high prices for feeder stock. Sometimes such men happen to strike it right and to make good profits in the end, but the business is too risky to prove attractive to careful stockmen, and failures to win are many every year. The present season holds out better prospects to sheepmen who buy now than most seasons do, as there is known to be a large shortage in feeding operations in Colorado and the corn states, but there must be a limit to advances in prices for finished mutton flocks, and those who pay \$7.25 per 100 lbs. for feeding lambs and \$5@5.80 for feeding yearlings are taking big chances. Last summer and fall there were brilliant opportunities for feeders that no wise sheepmen neglected, and they have made big profits on the low-priced flocks they purchased.

As has been their practice for many years, the big Chicago packers paid high prices last fall in numerous instances for cattle, in order to encourage thousands of farmers to buy cattle to send to feed lots. At that time feed was dear, and the high price of corn was causing many former cattle feeders to show reluctance in refilling their feed lots, but many of them bot feeder cattle, being encouraged to do so by the higher prices offered for fat beefs. Now these same packers are using all of their combined efforts to hammer prices, and the cattle feeders who have produced fat beefs are obtaining scant profits. For many weeks sellers of heavy long-fed cattle have found such stock discriminated against by buyers, and this is more the case now than ever. Killers almost to a man want cheap cattle with a fair amount of fat, and mighty few heavy steers suffice to meet the limited eastern shipping demand. When advances in cattle have taken place it has been almost invariably in the ordinary or medium to pretty good cattle, and the best steers are very much cheaper than earlier in the season.

THIS IS THE LAST EDITION.

In the first edition the Detroit Live Stock markets are reports of last week; all other markets are right up to date. Thursday's Detroit Live Stock markets are given in the last edition. The first edition is mailed Thursday, the last edition Friday morning. The first edition is mailed to those who care more to get the paper early than they do for Thursday's Detroit Live Stock market report. You may have any edition desired. Subscribers may change from one edition to another by dropping us a card to that effect.

DETROIT LIVE STOCK MARKETS.

Thursday's Market.

Cattle.

February 25, 1909.

Receipts, 1,034. Market 25c lower than last week on all grades.

We quote: Extra dry-fed steers and heifers, \$5.50@5.60; steers and heifers, 1,000 to 1,200, \$5@5.25; steers and heifers, 800 to 1,000, \$4.75@5; steers and heifers that are fat, 500 to 700, \$4@4.25; choice fat cows, \$3.75@4.25; good fat cows, \$3.50@3.75; common cows, \$3; canners, \$1.50@2; choice heavy bulls, \$4.25; fair to good bolognas, bulls, \$3.50@3.75; light bulls, \$3@3.25; milkers, large, young, medium age, \$4@5; common milkers, \$2@3.

Roe Com. Co. sold Bresnahan 4 cows av 1,005 at \$3.75; to Cook 13 steers av 750 at \$4.75; to Rattkowsky 1 bull weighing 1,200 at \$4.25; to Goose 2 cows av 835 at \$3.75; to Caplis 2 do av 835 at \$3.50, 3 butchers av 666 at \$2.75.

Bishop, B. & H. sold Sullivan P. Co. 2 steers av 785 at \$4.50, 14 do av 860 at \$5.25, 1 bull weighing 1,390 at \$4, 3 cows av 1,086 at \$4, 9 steers av 980 at \$5, 3 1,060 at \$3.50; to Mich. B. Co. 24 steers av 990 at \$5.25, 8 butchers av 835 at \$3.75, 5 steers av 834 at \$5, 1 bull weighing 1,430 at \$4.50, 2 do av 1,340 at \$4.50, 1 steer weighing 1,000 at \$5.50, 2 do av 875 at \$4.25, 5 heifers av 778 at \$4.50, 3 steers av 960 at \$5.50; to Kull 7 do av 1,100 at \$5.00, 13 do av 760 at \$4.70, 1 cow weighing 930 at \$4.25; to Caplis 5 butchers av 956 at \$3.25, 3 do av 906 at \$4, 1 bull weighing 950 at \$4, 3 cows av 970 at \$3; to Hammond, S. & Co. 4 bulls av 1,296 at \$4.25, 1 do weighing 1,340 at \$3.50, 2 do av 1,450 at \$4.25.

Spicer, M. & R. sold Mich. B. Co. 1 steer weighing 1,050 at \$5.25, 9 butchers av 570 at \$3.50, 2 bull and steer av 1,085 at \$4.25, 1 bull weighing 1,630 at \$4.50, 1 do weighing 940 at \$4.25, 2 steers av 840 at \$5, 2 do av 1,090 at \$5.50, 2 bulls av 1,090 at \$4.15; to Bresnahan 2 cows av 1,050 at \$4, 1 do weighing 800 at \$4.10, 1 do weighing 820 at \$3.75, 3 do av 882 at \$3.75, 2 do av 1,000 at \$3.75; to Regan 7 butchers av 523 at \$4.15, 3 do av 610 at \$4.15, 8 do av 615 at \$4, to Kamman B. Co. 25 steers av 944 at \$5.05; to Goose 3 cows av 886 at \$2.50, 2 do av 1,000 at \$2.50; Hammond, S. & Co. 3 do av 1,050 at \$3.65, 3 steers av 1,026 at \$5; to Caplis 3 cows av 806 at \$3.75, 2 bulls av 960 at \$3.75, 3 cows av 816 at \$2.25, 7 do av 823 at \$3, 5 butchers av 708 at \$4.25, 10 do av 635 at \$4.

Lowenstein sold Kamman B. Co. 13 steers av 842 at \$5.

Same sold Sullivan B. Co. 9 cows av 1,133 at \$4.10, 1 do weighing 900 at \$3.

Sharp sold same 4 butchers av 882 at \$4, 11 do av 835 at \$4.60.

Haley sold same 2 butchers av 1,140 at \$4.25, 13 steers av 1,132 at \$5.50.

Johnson sold Mich. B. Co. 1 cow weighing 1,080 at \$3.50, 2 bulls av 900 at \$3.75.

Heaney sold same 2 cows av 1,000 at \$3.50.

Johnson sold Regan 6 heifers av 608 at \$3.30.

Haley sold same 2 do av 625 at \$4.35.

Haley sold Rattkowsky 3 cows av 913 at \$3, 4 do av 970 at \$3.65.

Veal Calves. Receipts, 440. Market 25c@50c higher than last week. Best, \$8@9; others, \$4@7.50; milch cows and springers, good, steady; common, dull.

Bishop, B. & H. sold Nagle 6 av 155 at \$8, 3 av 165 at \$6, 2 av 140 at \$6, 11 av 145 at \$8.50; to Cannon 4 av 155 at \$8; to Nagle 6 av 130 at \$4.25; to Mich. B. Co. 16 av 155 at \$7.60; to cannon 1 weighing 210 at \$7.75, 2 av 125 at \$8, 1 weighing 180 at \$9; to Nagle 5 av 155 at \$8.50, 3 av 140 at \$6.50; to Newton B. Co. 12 av 130 at \$8, 28 av 140 at \$8.75.

Spicer, M. & R. sold Cannon 6 av 155 at \$8.25, 4 av 135 at \$8.25, 10 av 146 at \$8.25; to Eschrich 1 weighing 170 at \$4.75; to Rattkowsky 2 av 335 at \$4.25; to Mich. B. Co. 4 av 155 at \$7.25; to Nagle 9 av 140 at \$7.40; to Mich. B. Co. 4 av 150 at \$7.25; to Nagle 9 av 135 at \$7.40; to Newton B. Co. 7 av 140 at \$8.25, 11 av 130 at \$7, 8 av 155 at \$5.75; to Cannon 9 av 150 at \$8.25.

Sharp sold Sullivan P. Co. 10 av 134 at \$7.75, 1 weighing 90 at \$5.

Tubbs & Son sold same 4 av 125 at \$5.50, 18 av 150 at \$8.

Bennett sold Mich. B. Co. 4 av 150 at \$8.

Johnson sold Nagle 1 weighing 150 at \$5, 5 av 145 at \$8.

H. N. Johnson sold same 3 av 90 at \$5, 8 av 130 at \$7.75.

Heaney sold same 6 av 130 at \$8.

Cammon sold Roe Com. Co. 25 av 135 at \$8.25, 7 av 135 at \$6.50.

Cheney sold Burnstine 8 av 145 at \$8.

Downing sold same 1 weighing 140 at \$8.

Robinson sold Sullivan P. Co. 9 av 145 at \$8.

Kelsey sold Newton B. Co. 8 av 135 at \$7.75, 1 weighing 350 at \$5.

Weeks sold same 9 av 135 at \$7.

Graff sold same 14 av 140 at \$8.25.

Dennis sold same 11 av 150 at \$7.50.

Jedle sold same 2 av 170 at \$8.50.

Henderson sold same 4 av 145 at \$8.25.

Sharp sold Sullivan P. Co. 10 av 134 at \$7.75, 1 weighing 90 at \$5.

Tubbs & Son sold same 4 av 125 at \$5.50, 18 av 150 at \$8.

Sheep and Lambs. Receipts, 4,848. Market 25c lower than last week. Best lambs, \$7.25; fair to good lambs, \$6.50@7; light to common lambs, \$6.50@7; light to common

lambs, \$5@6; yearlings, \$5.75@6.10; 2 fair to good butcher sheep, \$4@4.50; culls and common, \$3.50@4.

Bishop, B. & H. sold Nagle 46 lambs av 80 at \$7.25, 5 do av 100 at \$6, 8 do av 50 at \$5.50, 15 do av 90 at \$7, 19 do av 70 at \$7, 11 sheep av 75 at \$4, 3 do av 70 at \$3; to Brookins 182 yearlings av 93 at \$6; to Cannon 174 do av 94 at \$6; to Nagle 181 do av 95 at \$6, 66 lambs av 85 at \$7.25; to Fitzpatrick Bros. 16 do av 55 at \$5.50, 22 do av 40 at \$5, 26 sheep av 95 at \$4.50; to Hammond, S. & Co. 89 lambs av 75 at \$7.25, 8 do av 55 at \$6, 85 do av 75 at \$7.25, 184 do av 80 at \$7.25, 4 sheep av 120 at \$4.50, 87 lambs av 85 at \$7.25.

Heaney sold Mich. B. Co. 10 lambs av 47 at \$5.50, 10 sheep av 101 at \$4, 8 do av 80 at \$4.50, 23 lambs av 75 at \$7.

Shepard sold same 70 lambs av 77 at \$7.15.

Bennett sold same 33 do av 73 at \$7.25.

Robinson sold Sullivan P. Co. 1 buch weighing 170 at \$3.50, 3 yearlings av 80 at \$5.50.

Downing sold Burnstine 7 lambs av 65 at \$6.60.

Spicer, M. & R. sold Eschrich 1 buck weighing 150 at \$3, 21 lambs av 50 at \$5.50, 3 sheep av 110 at \$4.

Roe Com. Co. sold Eschrich 3 sheep av 90 at \$3, 20 lambs av 60 at \$6.25; to Newton B. Co. 111 mixed av 65 at \$6.75.

Sharp sold Sullivan P. Co. 11 sheep av 100 at \$4.25, 23 lambs av 60 at \$6.

Wickman sold same 53 lambs av 75 at \$7.

J. W. Johnson sold same 16 do av 65 at \$6.50, 7 sheep av 65 at \$4.25.

Wickman sold same 33 lambs av 80 at \$7.

Allen sold Nagle 15 lambs av 90 at \$7.25.

H. N. Johnson sold same 28 lambs av 75 at \$6.75, 3 sheep av 150 at \$4.

G. J. Smith sold same 14 lambs av 90 at \$7.

Lewis sold Thompson Bros. 4 sheep av 115 at \$4, 3 do av 105 at \$5, 20 lambs av 85 at \$6.60.

Weeks sold Newton B. Co. 5 sheep av 125 at \$3, 23 lambs av 75 at \$6.60.

Dennis sold same 41 do av 77 at \$6.50.

Graff sold same 4 yearlings av 95 at \$5.50.

Cheney sold Fitzpatrick Bros. 16 yearlings av 80 at \$6.

Rice sold Young 15 yearlings av 100 at \$6.

Hogs. Receipts, 5,342. Market 15c@20c higher for good, and steady for pigs.

Range of prices: Light to good butchers, \$6.50; pigs, \$5.75; light yorkers, \$6.25; stags, 1/2 off.

Parker, M. & R. sold Hammond, S. & Co. 117 av 195 at \$6.50, 85 av 175 at \$6.40, 130 av 160 at \$6.35, 73 av 170 at \$6.25.

Sundry shippers sold same 75 av 190 at \$6.50, 26 av 173 at \$6.25.

Bishop, B. & H. sold Parker, W. & Co. 273 av 200 at \$6.50, 179 av 180 at \$6.40, 68 av 150 at \$6.25, 36 av 170 at \$6.25.

Sundry shippers sold same 82 av 182 at \$6.50, 73 av 177 at \$6.40, 67 av 161 at \$6.30.

Roe Com. Co. sold Sullivan P. Co. 55 av 170 at \$6.25, 19 av 228 at \$6.50.

Spicer, M. & R. sold same 128 av 165 at \$6.35, 63 pigs av 110 at \$6.

Bishop, B. & H. sold same 60 av 125 at \$6.25, 26 av 115 at \$6, 18 av 100 at \$5.50.

Sundry shippers sold same 61 av 183 at \$6.50.

Dennis sold Newton B. Co. 46 av 180 at \$6.40.

Friday's Market.

February 19, 1909.

Cattle.

Receipts, 65. Market 15c lower than at the opening Thursday.

We quote: Extra steers, \$5.50@5.75; steers and heifers, 1,000 to 1,200, \$5@5.25; steers and heifers, 800 to 1,000, \$4.75@5; steers and heifers that are fat, 500 to 700, \$4@4.50; choice fat cows, \$3.75@4.25; good fat cows, \$3.50@4; common cows, \$3@3.25; canners, \$1.50@2; choice heavy bulls, \$4.50; fair to good bolognas, bulls, \$3.75@4; light bulls, \$3@3.50; milkers, large, young, medium age, \$4@5; common milkers, \$2@3.

Bishop, B. & H. sold Hammond, Standish & Co. 5 steers av 1,314 at \$5.75, 4 do av 1,047 at \$4.50, 4 do av 937 at \$5, 1 cow weighing 690 at \$3, 2 do av 865 at \$2.50, 1 bull weighing 1,200 at \$4.50, 2 do av 1,005 at \$4, 1 heifer weighing 770 at \$3.90, 3 bulls av 1,450 at \$4.25.

Weeks sold same 13 butchers av 542 at \$4, 1 heifer weighing 560 at \$3, 24 steers av 860 at \$4.75.

Roe Com. Co. sold same 1 bull weighing 1,320 at \$4, 1 do weighing 1,550 at \$4.50, 2 steers av 950 at \$5, 3 cows av 1,073 at \$4, 2 steers av 950 at \$5.

Bishop, B. & H. sold Sullivan P. Co. 7 steers av 730 at \$4.85, 1 cow weighing 1,080 at \$3.85.

Weeks sold Schlischer 7 heifers av 503 at \$3.50.

Sheep and Lambs. Receipts, 430. Market steady at Thursday's prices. Best lambs, \$7.25@7.50; fair to good lambs, \$7; light to common lambs, \$6@6.50; fair to good butcher sheep, \$4@5; culls and common, \$3@4.

Bishop, B. & H. sold Hammond, S. & Co. 38 sheep av 85 at \$5.25, 2 lambs av 105 at \$7.50, 60 do av 70 at \$7.40, 47 do av 90 at \$7.50, 39 do av 80 at \$7.50, 159 do av 90 at \$7.50, 17 do av 88 at \$7.15, 19 do av 70 at \$7, 20 sheep av 90 at \$5.50, 4 do av 95 at \$4.50, 7 do av 80 at \$5, 6 do av 110 at \$5.75, 10 do av 112 at \$4.75.

Roe Com. Co. sold Barlage 30 sheep av 75 at \$4.25.

Same sold Robinson 73 lambs av 61 at \$6.60.

Bennett & S. sold Nagle 188 lambs av 85 at \$7.25, 2 sheep av 140 at \$3.25, 4 do av 80 at \$2.

Hogs. Receipts, 380. Market steady at Thursday's prices. Range of prices: Light to good butchers, \$6.20@6.35; pigs, \$5.50@6; light yorkers, \$6@6.10; stags, 1/2 off.

Lucke sold Parker, W. & Co. 66 av 164 at \$6.30.

Roe Com. Co. sold Sullivan P. Co. 99 av 137 at \$6.10, 18 pigs av 86 at \$6.

Bishop, B. & H. sold same 20 pigs av 120 at \$6, 45 hogs av 175 at \$6.25.



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FOR SALE—Seventy-five acre farm one mile from Charlotte, Mich. Good buildings of all kinds and wind mill. No waste land and in high state of cultivation. L. H. Shepherd, Charlotte, Mich.

1,000-ACRE FARM BARGAIN in Mecosta Co., Mich. 150 acres cleared; buildings; fine running water; on railroad; all woven wire fenced; \$12,000, easy terms. Also 208 acres adjoining; 55 acres cleared; \$1,500, easy terms. Write owner.

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FARM—Beautifully situated adjoining Oxford, Mich., on south. Excellent soil, two miles new wire fence, splendid water, 200 hard maple trees on road. Would sell 80, 160 or 320 acres. Easy terms, fine farm buildings. Address H. W. HOLCOMB, 290 Merrick Ave., Detroit, Mich.

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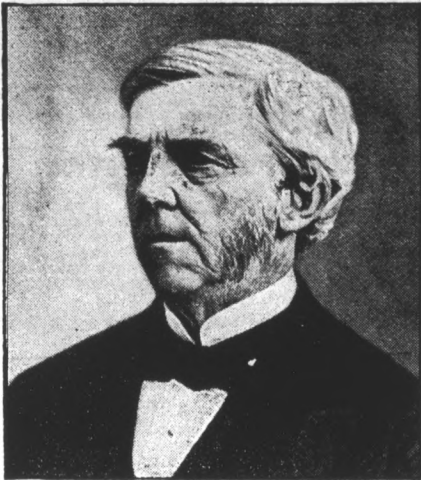
HOME AND YOUTH

EARLY AMERICAN AUTHORS.

BY CARL S. LOWDEN.

Oliver Wendell Holmes.

This renowned poet, essayist, and novelist was born August 29, 1809, at Cambridge, Mass. He was the son of good parents, and his ancestors were prominent in the history of their time. Mr. Holmes graduated from Harvard in 1829, after which he studied law, then medicine. He spent three years in Europe, and in 1839 became a professor in Dartmouth College. One year later he married, resigned his position, practiced medicine in Boston; then he took a professorship in his alma mater, Harvard. In 1857 his first ambitious effort, "The Autocrat of the Breakfast Table," appeared in the "Atlantic Monthly." It was a chatty serial with a charm such as is found in the writings of Charles Lamb.



Two years later, "Elsie Venner" was published. Holmes remained with the "Atlantic Monthly," contributing diverse material, for a long time; but at last his strong constitution failed him, and he died at Boston, October 7, 1894.

Holmes wrote a great many poems of more than ordinary excellence, among them being: "Old Ironsides," "Deacon's One-Hoss Shay," "Chambered Nautilus," "The Constitution," "The Comet," and "The Last Leaf." He wrote several articles that admit of no very definite classification, and in addition the "Breakfast Table" series, including "The Autocrat," "The Poet," and "The Professor." Two biographies came from his versatile pen: "Motley," and "Emerson."

The writings of Holmes are not such as make his name very enduring. He always wrote well, but he scarcely manages to clear the nauseating commonplace. There is brilliancy, wit, epigrammatic touches in abundance, but there are frequent sentences whose glaze is barely sufficient to escape the quality of the amateur. He is good-humored, acute, sincere, broad but not deep, and through every line there runs a quiet



Birthplace of Oliver Wendell Holmes, in Cambridge, Mass.—This House Was Gen. Washington's Headquarters During Siege of Boston.

vein of wholesome sentiment. His writings are always pleasurable and entertaining, and that is certainly ample cause for the reading of them.

The Last Leaf.

I saw him once before,
As he passed by the door,
And again
The pavement stones resound,

As he totters o'er the ground
With his cane.

They say that in his prime,
Ere the pruning-knife of time
Cut him down,
Not a better man was found
By the crier on his round
Through the town.

But now he walks the streets
And he looks at all he meets
Sad and wan,
And he shakes his feeble head,
That it seems as if he said,
"They are gone."

The mossy marbles rest
On the lips that he has prest
In their bloom,
And the names he loved to hear
Have been carved for many a year
On the tomb.

My grandmamma has said—
Poor old lady, she is dead
Long ago—
That he had a Roman nose,
And his cheek was like a rose
In the snow.

But now his nose is thin,
And it rests upon his chin
Like a staff,
And a crook is in his back,
And a melancholy crack
In his laugh.

I know it is a sin
For me to sit and grin
At him here;
But the old three-cornered hat,
And the breeches, and all that,
Are so queer!

And if I should live to be
The last leaf upon the tree
In the spring—
Let them smile, as I do now,
At the old forsaken bough
Where I cling.

THE HIBERNATION OF BEARS.

BY ISAAC MOTES.

One of the interesting features of animal life is the means employed for subsistence in winter. Many animals, including wolves, foxes, coons and opossums, forage for their food all winter, while others store up nuts, acorns, corn and the like in dens where they hibernate for four or five months during the coldest weather, but come out occasionally on warm, sunny days. Still others lay up food in the shape of fat in the body in the autumn, then when the weather begins to get cold they den up in caverns and caves and never come out until next spring, doing without food the whole winter thru, their lives being sustained by the slow combustion of fat already stored up in the body. Snakes, frogs, ground-hogs and bears are among the class of animals that hibernate without food. They practically sleep during the entire winter, or remain in a kind of stupor.

The largest of the animals which hibernate without food is the bear. As the weather grows cold in the late autumn a bear will lie down among the fallen leaves in some dry canyon or under a sheltering rock or tangle of underbrush, and go to sleep for about two weeks without stirring. This is to prepare for the long winter retirement. This preliminary sleep occurs some distance from the den previously selected for his winter quarters. After two weeks of this preparation the bear gets up and goes straight for his den, enters it and is seen no more until the weather gets warm again in

to do without food for a long time say that during the first two or three days after their rations are shut off the gnawings of hunger are very painful, but after this the pain is not so acute, as the system turns from its crying after new nourishment and begins to burn up or consume the fat stored in the body in the effort to sustain life and furnish necessary energy, and during this stage of the fast the only feeling is one of slow, gradual emaciation and lessening of strength. And naturally if a man were lying down all the time he was fasting, rather than walking about expending energy, he could sustain life for a longer period. So it is not marvelous after all that a fat bear lying in a deep, warm cave in the ground can live three or four months without eating.

Some old hunters and trappers say that no matter how large a cave may be, only two bears hibernate there; that if another pair venture to intrude there is serious trouble in store for the last comers. Others tell us that if the den is large another pair may take up their abode in another part of it, as the first comers are in a state of stupor or torpor, and not disposed to be quarrelsome, or to take much notice of the late comers.

During the latter part of the hibernating period, very early in the spring, the young cubs are born, and it is the coming of the cubs which forces the old bear out after food and water in order to nourish her young. It is said that she never leaves the den until after the cubs are born, but very soon thereafter she comes forth ravenously hungry, and it is at this time that a bear is quarrelsome and ill-humored, and when she plays such havoc with the farmers' pigs, poultry, lambs and young calves.

Old mountaineers, trappers and hunters who trap wild animals for shows, park boards and the like take advantage of these early trips of the mother bear to capture the little cubs in the den. These hunters will have an order from some showman for a pair of young bears at a good price, and being familiar with the mountains and rocky bluffs along rivers and other wild, broken country, they know the location of every den large enough to hold a pair of bears, and in the spring as warm weather approaches they keep a sharp watch for the old mother bear to emerge from her long winter home, for mother instinct drives her forth before the male comes out.

As soon as the hunters see fresh tracks in the snow, sand or soft earth leading away from the cave they know the old bear has fared forth after food. They then set a large steel trap in the trail, to catch her on the return trip. And as there is generally a more or less well defined path leading to the cave they are pretty sure to catch her, as she will come back along the same path.

After she is caught she is not molested, but allowed to remain quietly in the trap. The hunters now secrete themselves near by and watch day and night for the appearance of the cubs. After a time they get very hungry, and nose about in the cave for their mother, and failing to find her they keep exploring until they come to the mouth of the cave and see her in the trap, when hunger leads them to go out to her, when the hunters make a break for the mouth of the cave to intercept and catch them before they get inside again. In this way they not only catch the little cubs alive, but possibly the old bear also.

This is the surest way to capture the cubs, for it would be useless to attempt to dig them out, as the cave might extend back for fifty feet into the side of the hill, mountain or rocky bluff. The trap is set near enough to the mouth of the cave so that the cubs may see their mother when they get to the opening, and yet far enough away to prevent their reaching the den again before the hunters intercept them, as they might try to do if several weeks old. Sometimes the whole family may be broken up in this way, the he bear being shot or roped when he ventures out.

This applies more to black or brown cinnamon bears than to the grizzly or silver tip. It's a serious proposition to catch one of these larger bears in a steel trap that will hold her, or to rope and capture the male, but the cubs can sometimes be caught in this way by two or three experienced hunters, provided the mother is caught near the cave in a trap strong enough to hold her. Most of the bears you see in shows are secured in this manner, as bears never breed in captivity, and never breed if for any reason they were too poor to hibernate, but had to forage thruout the winter for food.

This Recipe for Home-made Cough Cure is Worth Saving.

Most of the suffering and most of the serious diseases that result from colds and coughs could be entirely prevented if the proper medicine were on hand and could be taken conveniently when the first signs of trouble appeared.

By saving the recipe given below you will always have an excellent prescription for colds and coughs. Or better yet, by making up the remedy you will always have it handy. A teaspoonful dose, taken when the first symptoms arise, will ward off a vast amount of suffering and possible danger. This is the recipe:

Granulated Sugar Syrup...13½ oz.
Pinex 2½ oz.

Put the Pinex (50 cents' worth) in a pint bottle and fill up the bottle with the Granulated Sugar Syrup, made as follows: Take a pint of Granulated Sugar, add one-half cup of water, stir and let boil just a moment. If kept well corked it will never spoil so that this pint of cough medicine will last a family a long time. It can be made in five minutes at a total cost of about 54 cents and is very pleasant to take. Dose: A teaspoonful every one, two or three hours as required.

Simple as it is, it is in every way superior to the ready-made syrups that cost five or six times as much. Obstinate deep-seated coughs usually yield to it inside of twenty-four hours. It is also an excellent remedy for whooping cough, pains in the chest, bronchial troubles, hoarseness, etc.

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THE PUMP THAT

The Hop Picker From Port Simpson

BY ANNA GIRMUS.

(Continued from last week).

Dan knew not how, but he caught Alice with one arm and with the other clung to the canim. It lasted but a moment. The next wave tore this refuge from him and he found himself without any support in the water. Instinctively he fought his way toward the shore. When the next wave struck him he floated forward, but his strength was almost exhausted. He felt that he could no longer struggle against the water. Suddenly his foot struck sand. Exerting his splendid physique, he made a powerful effort and the next wave found him far enough so that he could resist its outgoing power.

Tightly clutching his burden, for he had not once thought of releasing his hold on Alice, he struggled to a place of safety and sank exhausted upon the ground.

Only a moment did he remain inactive. Looking about him he saw where he was. Lifting the unconscious girl in his arms he started for the village of Tyee George.

In his haste to get help for his charge, he did not notice, until he had entered a large tent built of green boughs and decorated with flowers, that anything unusual was taking place. The crowd of Siwash, the long table laden with food, told him that Tyee George was celebrating a Potlatch, the festival of giving.

Some of the guests noticed him and soon all stared at the intruders. Tyee George himself came forward and gazed keenly at the young man's face. "Klawowya Skookum Dan," he called. "And the maiden?" he inquired.

Dan briefly stated how his companion had been injured. His fear for her was evident.

Tyee George called two of the women who took the girl away where she might receive the necessary care. Dan was led to the fire and a third kloooh soon brot him a steaming broth. The guests and other members of George's household returned to their feasting at the tables loaded with game, fish, beef and biscuits of every description.

After a time the host himself joined the young man, who then gave a more complete account of his adventure.

"Youth should listen to the advice of old heads," declared the chief, "but it ended well;" a shrewd smile passed over the aged face. "The blood of the father probably acted in the son. Once, too, Long Macdonald ventured out in just such a storm—and if he had not I would not be here tonight to welcome his son. So we must not scold."

One of the women who had taken charge of Alice entered and made her way to them. "The kloooh has recovered," she announced. "She seems all well except the hurt on the head, and that's not bad. She wished to hear how you are."

His anxiety relieved, Dan began to show the effects of his recent exertions and soon fell asleep rolled in a blanket which Tyee George gave him as his gift from the Potlatch.

The next morning the entire company resumed its feasting and good will prevailed.

Dan wandered anxiously along the shore and toward noon he found his canim where it had been tossed up by the waves. Farther on he discovered his tent and the most of his outfit. He examined the boat and was relieved to see that two or three hours' work would make it as good as ever.

It was long past noon when Alice appeared. Her entire bearing indicated that the adventure had tried her strong frame. Dan found an opportunity to discuss plans for joining their party with her. "You must first rest well," he advised.

"I think they'll come here for us," she ventured.

"They may," Dan assented. "They should be here by this time, if they are coming."

"Maybe they found firewater again."

Dan's eyes rested questioningly on her face. He, too, began to remember some suspicious circumstances of the previous day. For some time he was busy arranging his thots. "I guess you are right," he admitted slowly. "If they have, it will be a day or two before they come. We will wait." Dan's eyes told his admiration for her shrewdness.

Her surmise proved correct, for late the next afternoon the little fleet reached the island. Early the following day the party resumed its journey, for they must hurry and must catch fish to trade for

other provisions at the loggers' camps or at the ranches on their way. The expedition was almost without food.

It was several days later that Dan, with others, had gone to a camp on one of these errands. There had not been fish enough to pay for all they received and Dan had surprised the cook by paying the balance in money. Usually the Siwash begs for such favors, but Dan would listen to no such plan. "I pay for what I eat," he insisted, not without pride.

Alice, who had quite recovered from the effects of the storm, stood by Dan's canim which was some distance from the others. "Say, there's a good looking kloooh," she heard someone say.

Turning slightly, she saw four or five loggers on their way to the camp. She tried to appear as if she had not seen them.

"She's good lookin' enough to kiss," continued the same voice, "and I'm goin' to do it, too."

The girl paid no attention to the remark or to the passers, thinking that they would not molest her if she remained quiet, but before she was aware the great broad-shouldered fellow stood at her side.

The black eyes gazed at him in sudden fear. Surely a white man would take no such liberties, she thot, but even while the thot still hovered in her mind the coarse face was lowered to hers, the big hand was placed under her chin. The next instant a stinging blow fell on the man's face from her open hand and he straightened up with a jerk.

"Now come along, Mike," called one of the other men. "You got what you deserve."

But Mike had no intention of "coming along." The opposition only strengthened his desire. "Oh, pshaw!" he wheeled, grinning. "I'm goin' to have that kiss, so stop the fightin'." He seized her about the waist and then she heard something come down on the big bully's head and felt his arms release her.

Dan, with flashing eyes, stood facing the white scoundrel who made a spring at him, but one blow from the young halfbreed's fist sent Mike sprawling across the boat into the water.

Dan turned to where he had left his provisions and began loading them into the canim. Alice hastened to help him. By the time that the big Irishman had paved his way from the water they were ready to leave, but Dan did not hurry. Mike gave the two a sheepish glance and sneaked after his companions.

Alice's eyes rested in shy admiration on the broad shoulders of her companion as they glided down the strait. The eternal woman admires nothing more in the man of her choice than a strong, splendid body.

Nor was Dan unaware of her glances. Once he met her eyes and his own dropped almost as quickly as hers. They were both happy.

Two days later the party reached Vancouver where they decided to stay a day or two and then take the steamer to Tacoma.

It was Alice's first visit to the white man's city and it affected her intensely. She did not care for the business part of the town, but with Dan as guide she walked slowly down Westminster avenue. Her big dark eyes noted, with a strange fierce longing, the family groups gathered on the porches. A restless discontent which was painful in its intensity took possession of her. These women, these girls had everything, clean homes, cheerful surroundings. They appeared almost different beings than she and the women of her world. Yet there was that within her that whispered that she, too, had a right to possess these things. She looked up at the man walking by her side. Could he, could they two, make a home something like this?

Poor Dan read some of the discontent in her face, for had he not that the same thots? Had he not resolved long ago that he would never be content with the simple hand-to-mouth existence of the Siwash. To be sure, his dreams had not led him to build his castle in Westminster avenue.

That evening he took Alice for a walk down Cordova street. This was possible, this had appealed to him, the clean walk, the small porch, the white curtains at the windows, the neatly carpeted sitting-room of which they caught an occasional glimpse. This, by hard work, he could

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accomplish. And with Alice there, waiting as these women were waiting for their men, he could work. His strength would do all.

They spoke but little. When they had returned to the outskirts where the party was camping, the girl raised her dark eyes to his. "I want to live like that," she said vehemently. "I want white curtains, a stove to cook on and a little chair that rocks."

He met her gaze with equal earnestness. "I don't want the camp or the rancherie either," he answered. "We'll work hard this season, pick the hops, save our money, come back here and I'll get work and we'll get a home, too."

Alice had lost part of her clothes in the storm and the next afternoon Dan took her to an unpretentious drygoods store where he told her to buy what she needed.

"But I have no chickamin," she objected.

He smiled. "I have some," he assured her.

The woman who came to wait on them was a kindly dispositioned person who took an interest in the tall klooch. She led the girl to the shirtwaist and skirt department where she helped her select a cheap but neat serviceable brown skirt and several waists. Then she had Alice try them on while she went to another department for a belt and some collars.

When they returned to Dan his heart gave a joyous bound at sight of the girl. He was glad of her white blood for no full-blooded klooch could look like that.

The saleslady smiled kindly. This broad-shouldered, dusky giant and finely formed girl attracted her and she was pleased at the satisfaction in his face.

"Now we must have a hat," he said, after he had paid the bill.

"Wait just a moment," requested the saleslady. "I'll give you a note to the lady who sells hats in the next place, and she'll find you something nice." She could not allow her work to be ruined by the addition of some parti-colored monstrosity.

Both Dan and Alice had noticed the dress of the people in that part of the town which they had visited the previous day and neither cared for the highly colored head covering affected by the other women of their party. The plain brown straw with its brown silk bow, which the saleslady in the millinery establishment showed them, met their approval.

The other women had learned to leave Alice alone, but that hat was too much for their fortitude. They called it a cultus (poor) affair, and the dress was too plain for a young klooch. Nevertheless, there was that about the entire costume that even to them gave to the girl a peculiarly distinguished air. And the next morning when they boarded the boat more than one white passenger noticed the trim figure.

She and Dan sat apart during the voyage, watching the scenery or talking in low tones of the little home which was to be established after the hop-picking.

One little serpent entered Alice's mind. She noticed that Dan would take a drink of whiskey with the others. He had never been intoxicated in her presence, but he showed the influence of the liquor and a love for it that worried her. She had gently remonstrated with him and he had been careful until they reached Tacoma where, in some way, the men again procured the stuff and he had not been strong enough to resist.

Poor Alice! All the pleasure that she had expected to take in looking about the city was gone. When Dan, the next morning, offered to take her for a walk she almost refused. His pleading eyes prevailed, but she was listless and much of her former interest was gone. They walked on and on and she took no notice of the homes they passed. At last they faced the waters of the sound and they sat down to rest.

Something about the place reminded her of her old home. She had lost some of the dislike for it. Perhaps after all it was to be her lot. If this man would to go back she should go with him, for he was more than the little home they had planned.

She moaned in the intensity of her misery, and Dan, knowing well the cause, resolved that she should never suffer so again, but he could not tell her of the resolution. Gradually she grew more cheerful.

"Which way is Puyallup?" she inquired.

"Toward the noonday sun," he answered, at the same time pointing toward the south.

"And we'll be there today?"

"Yes, this afternoon, and tomorrow

we'll begin working for that home," he added. So the planning was resumed.

"And you think we may have a chair that rocks?" she inquired.

That question occurred at least once in every one of their talks, for had she not seen the white mother rocking her babe to sleep in that enchanting piece of furniture?

"The chair that rocks sure?" he encouraged. "They don't cost so much. I asked; nice ones for three or four dollars.

"I'll work hard to earn that much more," she promised.

He smiled down at her. "We must go back," he warned presently. "It will soon be time to go."

The next morning they were on their way from Puyallup to the hop fields of Hiram Smith who had hired the entire party.

The work was new to Alice, but she soon developed a proficiency that aroused the envy of the other klooches. She and Dan worked side by side and to labor was no hardship. Then there was the constant opportunity to observe the ways of her father's people. At the house where they procured much of their provisions was a girl of her age, Grace Smith, who, to the Siwash maid, appeared to embody all that she would like to be.

Was it because of this admiration that Grace in her turn was attracted? Or was it because the white girl noticed the romance of the two hop pickers, for she, too, was living in the rosy atmosphere of planning a new home. At any rate she always smiled kindly at the couple when they came to the house and, if they were alone, she very often invited them to the clean, roomy kitchen. She soon learned that they spoke English.

One Sunday afternoon she led them to the sitting-room where they met a young man from town, and Alice understood, but even more than seeing this other romance did the clean, orderly, neatly furnished room appeal to her. It was as if that New England grandmother, who would have been sorely hurt to acknowledge the relationship, lived again in her dusky granddaughter. The longing to call such a room her own hurt in its intensity. Then she caught a glimpse of the white bedroom beyond. She could only observe each article of furniture and wonder if she, too, might at some time own such things. The spotless purity, the cleanliness of it all, fascinated her. Surely it must have been the blood of the grandmother asserting itself.

For several days Alice had not kept up her reputation at the picking. Each evening saw a decrease in her earnings. Each morning she determined to do better, but when evening came it was worse than on the previous day. Dan tried to help, but it was of no avail. She could not understand herself. She tried hard, for there were so many more things that she wanted for that new home, but she failed. She wondered at it all in a vague manner. Her head felt strange and her limbs were so tired. At times everything looked hazy.

One evening she dragged her tired body to the tents with the other pickers and sank wearily upon her blankets. Dan watched her anxiously. He had been worried at her manner the past few days. He fried some eggs and brot them to her, but she only gazed at him with eyes that saw nothing. Some of the other klooches came to his aid but the girl turned wearily.

Leaving her in charge of the others, Dan made his way to the house to get some milk for her.

"Where is Alice?" inquired Grace.

"She's sick, I think," he answered.

"What's the matter?"

"Don't know," came the short reply.

Then followed an account of the girl's condition.

"Too bad," sympathized Grace. "Maybe she'll be all right in the morning." She went for the milk and did not forget to add an orange.

It was a fine evening, and when the young man from the city puffed up in his automobile, Grace, in spotless white, met him at the door.

Later the two strolled to the gate where Grace, remembering the sick hop picker, suddenly asked, "Have you your medicine case with you, Robert?"

"Why yes." His eyes rested searchingly on her face. "Anything the matter?"

There was a tinge of anxiety in his tone for there was much fever in the locality.

"Not with me; but you remember that nice Siwash couple that was here last Sunday? Dan came to the house about an hour ago and said that Alice is sick.

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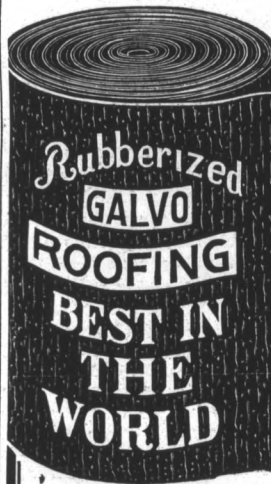
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At this price our "Gem" brand ready roofing, 108 sq. ft. to the square. The best bargain ever offered. Only 3,000 squares for sale. No supplies included at this price. We do not recommend the purchase of this grade; read our wonderful offer on the best roofing in the world.

Rubberized Galvo Roofing!

The highest grade Roofing covering manufactured. Guaranteed absolutely equal or superior to any other kind manufactured. Positively covered by a binding guarantee that protects you in every way. You make no mistake and are not gambling when you buy this grade. We affirm that no other concern anywhere can make you a lower price on ready roofings than we can. We have for sale a large quantity of roofing purchased by us direct from the manufacturers. It is the regular grades made by them. It is not in continuous lengths to each roll. A roll of roofing usually comes in one continuous piece, but the roofing we are offering is put up two to five pieces to a roll. That, of course, does not affect the quality at all. In fact, some people prefer it, as it is easier to handle. We furnish plenty of material, so that all laps can be properly taken care of. We are not allowed to tell you the name of the manufacturers for confidential reasons. We are putting it out under our own brand and name, and are backing it with this guarantee, viz: That it will positively give as good service and last as long as any ready roofing manufactured. If there is any roofing better than this, we haven't heard of it. Our price 50% below what is usually asked for roofing of similar quality. One ply, per square, \$1.25; two ply, per square, \$1.40; three ply, per square, \$1.75. Our thirty-day offer at these prices means,

FREIGHT PREPAID IN FULL BY US.

provided your home is within 400 miles of Chicago or East of the Mississippi and North of the Ohio Rivers. Rates to other points on application. This freight-prepaid proposition refers only to the Rubberized Galvo Roofing in this advertisement, and does not include the 50¢ per square roofing offered above. Here is a roofing that is slate color, tough leather-like material. It is made of a combination of wool felt and highest grade of natural asphalt. It is water-proof, lightning-proof and fire-proof. Water runs off it as it does off a duck's back. It will not taint rain water. It makes buildings warmer in winter and cooler in summer. It is not affected by acids, alkali or gases. It has a rubbery surface and on this account we call it "RUBBERIZED GALVO ROOFING." It does not contain coal tar, residuum, nor anything that will deteriorate in the weather. The best grade of natural asphalt known is used in its manufacture. It will wear as long as the building stands, provided you give it ordinary care. It does not require a coating after it is on the roof. It toughens and hardens with age. We furnish with each order sufficient cement to make the laps, besides nails and caps to put it on. Anyone with an ordinary hammer can lay this roofing. You can put it on over shingles without removing same. It is scientifically manufactured to take care of the laws of contraction and expansion. It requires but little time to put it on your roof. Two men can lay twenty squares a day. It is appropriate for any kind of a building, either factory, dwelling, barn, store, church, etc. It is also used as siding or lining, especially the lighter grades. It is put up 108 square feet to the square.

WRITE FOR FREE SAMPLES!

Write today for free samples, or send us your order direct. We will ship C. O. D. to any point where a deposit of 25% in cash accompanies the order. Balance to be paid when material reaches destination. We have other grades of roofing, and can supply your every want. Ask for our mammoth illustrated free catalog, 64 p., 500 pages of bargains. Everything used on the farm, in the office, the factory or in the home. Write for it today. Get our special prices on wire and fencing.

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when you can't afford to leave your work on the farm? With a rural telephone you can talk to town at any time, making it possible for a boy to go and attend to the details, leaving your time free for other work.

The telephone also enables you to take advantage of fluctuations in the market and sell your products at best prices. But good telephone service depends first upon the quality of the apparatus installed and without good transmission qualities a telephone system is worthless.

WESTERN ELECTRIC RURAL TELEPHONES

have highest efficiency and reliability with lowest maintenance cost. Our apparatus has high transmission qualities over long as well as short lines, and is used by the leading telephone companies of this country.

We have brought the rural telephone within the reach of every farmer, and with our Free Bulletin before him a boy can install and operate the system. Our telephones are guaranteed. Cut out this advertisement, write your name and address on the margin and mail it to-day so that the Free Bulletin, which describe the entire plan in detail, may be sent you immediately.

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I remembered it. Maybe you can do something for her. If you don't mind," she added hesitatingly.

The doctor smiled down at her. He knew her unflinching interest in all human beings. That was what had first attracted him in the rather shy, thoughtful girl. "Will she let me?" he inquired, still smiling.

He took his case from the car and they walked toward the tents. Probably a little tired," he remarked. "She did not complain Sunday. She appeared to me to be a remarkably ambitious person for a Siwash, or even for a breed. It's been quite warm for the past three or four days."

But when he saw the girl tossing on the blankets his face grew grave. He sent all from the tent except Dan and an elderly kiooch. Grace pouted slightly when he ordered her out with the others. Quietly, skillfully he conducted his examination. When he looked at his thermometer, anxious furrows showed on his forehead. He prepared the medicine and then he asked Dan if he had a watch.

(Concluded next week).

MR. WARD'S ADVICE.

BY MARGARET WHITNEY.

"Maud, I wish you would not undertake so much work by yourself," said Mr. Ward, one morning when he was finishing breakfast. "I must get the oats ground ready to plant just as soon as I can, and after that I'll take a few days and help you finish the cleaning myself."

"If Mrs. Hunt had done as she agreed to, I'd be done before this," said Mrs. Ward. "She promised to help me till I got thru and when her neighbor, Mrs. Lewis, asked her to help with some sewing she forgot all about her promise to me. I am going to finish the two front rooms today and then I will be more than half done."

"Can I do anything for you before I start to work?" said Mr. Ward as he left the table.

"Yes," said his wife. "I have the tacks taken out of the two carpets and would like some help to get them into the yard. We will move the furniture into the hall first."

"If you would listen to me you would get some rugs to take the place of those heavy carpets," said Mr. Ward as they were dragging them into the yard. "I'd be glad to get them for you and dispose of these heavy things."

"Why, Thomas Ward, do you suppose we are going to sell these good carpets and buy rugs?" said his wife. "They are nearly new and will last for years. If we sold them to the secondhand store man it would be almost the same as giving them away."

When the offending carpets were disposed of on the line, Mr. Ward started for the field and his wife proceeded to get the children ready for school. After they had gone she went to work on the two rooms. By dinner time she had one room ready for the carpet and her husband assisted in bringing it in and putting it in place. The furniture was to be moved in at night when the other carpet was to be brot in.

When Mrs. Ward had tacked this carpet down and finished cleaning the second room, she thought she would turn the one in the yard and beat it on the wrong side. It was a heavy Brussels and in lifting it she hurt her back so badly that she was forced to lie down on the carpet. While she was lying there the telephone rang several times but she could not go into the house to find out what was wanted. When she was able to rise later on and walk slowly into the house the operator could not tell her who had called her up.

All she could do was to lie down and let everything wait until Mr. Ward should come to the house at supper time. About an hour after the telephone rang she heard a buggy stop in front of the house and almost immediately the door bell rang. The door was open and when she managed to get close enough to see who was there she recognized the daughter of a cousin who lived in the city and with whom she had visited several times.

"Why Aunt Maud," said the girl, whose name was Jessie Hardy. "What is the matter? Are you sick? Didn't you get my letter?"

"No, I am not sick but I hurt my back a while ago. Sit down and tell me about the letter I did not get," said Mrs. Ward. "I forgot to go to the mail box," she continued, "and very likely the letter is there now. The carrier gets here about one o'clock."

Jessie ran to the mail box and came

back with the letter that she had mailed three days ago and which was stamped "missent." It had been sent to a town bearing the same name in another state and had just been returned. Jessie then went on to explain that when she got off the train and found no one there to meet her that she had telephoned to ask them to come for her. When she got no reply she hired a man from a livery barn to take her to her aunt's home.

"Father had to go south and wanted mother and I both to go along," continued Jessie, "but I had planned for a long time to come out here for a vacation and this was a good chance. I have had some experience in cooking since I finished school and if you will give me a wash dress of some kind I will get the supper and we can talk as I work."

It was no use for Mrs. Ward to protest for every move she tried to make was painful, so she told Jessie where to find a dress and what to get for supper, which was ready by the time the children, Robert and Lucile, came from school and Mr. Ward from the field. After it was eaten Mr. Ward put the furniture in place in the cleaned room.

The next morning Mr. Ward started to town to find someone to finish the cleaning and took the heavy carpet along. When he came back he was alone, but in place of the carpet had several rugs and he said to his wife, "Now, Maud, you may put these down where you please, and when you are able to go along we will get a rug to take the place of that other heavy carpet you have been struggling with for years. I will not be sorry when you get over this hurt and I believe this one experience will be enough for you."

"Well, the next time I clean house," said Mrs. Ward, "I will wait till I have help, if I wait all summer, and if we can not get rugs for all the floors we will have them just painted. It is a lucky thing that Jessie is here and that she can cook for we would have very little to eat if I had to prepare the food. I see now that my accident might have been prevented if I had been willing to get rugs several years ago when you first began to talk about doing so. But it is better late than never and this one experience will be all I need."

GRANDMOTHER'S BEEFSTEAK PIE.

BY MARY FOSTER SNIDER.

Cut about two pounds of steak into pieces an inch square, and dust them with salt, pepper and a little flour. Put them into a shallow pie dish, heaping them in rather high, that they may hold the crust up then half fill the dish with water and add a teaspoonful of minced onion. Put a border of paste around the edge, brush it over with water, and put on the cover of paste, which should not be rolled very thin. Brush over the pie with beaten egg, prick it symmetrically with a fork and cut a hole in the top of the crust. Bake it in a hot oven for about an hour. For special occasions cut leaves, etc., out of the fragments of paste left over and ornament the top with them. This should be eaten hot.

THE DIGNITY OF LABOR.

Many people are rich and their work is done for them. The majority of us work with our hands. The day will come when the man or woman who works with his brains alone will be considered only half educated. Many rich people work harder than many of the poor. Life is like one great carpet, some of us weave the dark body threads and others put in the gay ones. The carpet must have the body threads as the world must have workers. They are the backbone of our nation.

The washwoman does honorable work when she does the work thoroughly. If you do your work well, it shows the kind of a workman you are. Some women think they are paid to do work. They only do what they are paid for. The woman who gets ahead is not the woman who stops because the clock strikes six. And yet the highest efficiency usually follows regular habits of work. A new program each day wears out the body and overcomes the spirit.

Our life and our character are affected by the way we do our work. If we know how to do our work well and do it in a careless and slighting manner, that habit grows quickly, and in time we lose the capacity to do our work in the best way. You can dignify your work. If you are ashamed of it, the work will not be done right. We must do our work well, then we can make our work and our life what we will.



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The Queen of Fruits,
are the source of
the chief ingredient of
ROYAL
BAKING POWDER
The only Baking Powder
made from
Royal Grape Cream of Tartar.
Makes the food finer, more healthful.
No Alum—No Lime Phosphates

A baking powder man is giving a globe with two gold fishes as a bait to sell a box of baking powder. In a West Virginia town they have been trying to purify their drinking water with alum. But the alum killed the fish in the ponds and the trouble was worse than ever. Unless the housewife who buys the combination of gold fish and alum baking powder is careful to keep them apart, she will probably, like the West Virginia people, soon find herself with a stock of dead fish on hand. But can she afford to use in making her cake and biscuit a baking powder so unhealthful that it will kill fish?

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WESTERN CANADA
More Big Crops in 1908

60,000 settlers from the United States in 1908. New Districts opened for settlement. 320 acres of land to EACH SETTLER—160 free homestead and 160 acres at only \$5 per acre.

"A vast, rich country and a contented, prosperous people." Extract from correspondence of a Kansas Editor, whose visit to Western Canada in August, 1908, was an inspiration.

Many have paid the entire cost to \$20 per acre as a result of one crop.

Spring and Winter Wheat, Oats, Barley, Flax and Peas are the principal crops, while the wild grasses bring to perfection the best cattle that have ever been sold on the Chicago market.

Splendid Climate, Schools and Churches in all localities. Railways touch most of the settled districts, and prices for produce are always good. Lands may also be purchased from Railway and Land Companies.

For pamphlets, maps and information regarding low Railway Rates, apply to Sup't of Immigration, Ottawa, Can., or to the authorized Canadian Government Agent.

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THE LARGEST AND BEST LINE OF WELL DRILLING MACHINERY in America. We have been making it for over 20 years. Do not buy until you see our new illustrated Catalogue No. 14. Send for it now. It is FREE.

Austin Manufacturing Co., Chicago

A \$400 Piano at Your Price

New plan—sold 53 pianos recently. To advertise my piano business further, I will POSITIVELY deliver, prepaid, with stool and cover, the above piano to R. R. station of person sending me the highest offer before March 31. Refer you to any Bank in Bloomfield. Plan, photos, etc., by mail. WRITE TODAY.

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WANTED—Good trustworthy Farmer can find steady work by addressing
A. BLAESS, Saline, Michigan.

WANTED—AGENTS to sell Farmer's Account Book. Quick seller, exclusive territory, big inducements. Simple, easy, accurate. Saves time, trouble & worry. Addr. L. L. Syphers, Ft. Wayne, Ind.

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Patrons' Pride—New Grange song book. Endorsed by O. S. G. Stirling songs. Only 20c. Geo. W. Armstrong, Lisbon, Ohio

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pares meals, washes dishes three times a day, and makes clothing for her children is entitled to all honor. Half the battle in any field is to love the work at hand and to have enthusiasm for it. Do what you have to do today, and do it well. Do not envy other people, but be satisfied with what you have.

Every daughter should be inspired with the art of housekeeping and feel that when necessity arises she can do her own work without feeling that she is lowering her dignity.

Col. Agri. Col. MARY F. RAUSCH.

UNAPPRECIATED BLESSINGS.

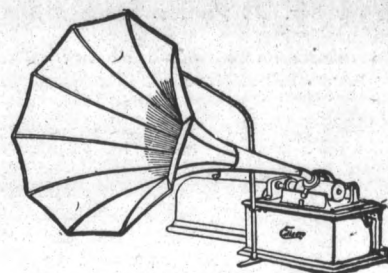
In thinking of the attitude of some of those who live on a farm, it seems to me that the majority of us do not count our blessings. I was not thinking of the "money question." We already give almost our entire attention to that, but to those things which should add much to the enjoyment of our lives—the little things which are not appreciated. The women on the farm look with envy on the city housewife: never thinking of the things which they enjoy that she does not. Seeing the other day a line full of newly washed linen hanging to dry in the dust and grime of the city, caused me to appreciate one of the commonest things of our daily life, that of hanging my freshly laundered household linen out in the pure air and sunshine. I love the smell of clean, fresh linen. There is beauty and health in every tuck and fold. As they sway gently back and forth in the breeze, sunlight and air penetrating every fiber, "bacteria" dies a natural death. Then think of our springtime joys. In a few days you will be sowing a small bed of lettuce. Don't be afraid to get down on your knees, put the earth gently with your hands, pressing the soil firmly about the seeds, for there is an exhilarating influence in the contact of Mother Earth. A red bird alights on the fence, watching you work, putting his head on one side in his pert, brisk fashion, criticising your work severely. In your mind's eye you behold great bunches of tender lettuce, sweet and crisp to the core, which pleases palate as well as eye. Your seed safely planted you indulge in a short walk in the mild sunshine, and spy the swelling buds on your favorite rose. Ah! it is like greeting an old friend, and if your ear be finely attuned to the voice of Nature you will catch faint whisperings from those swelling buds, telling of the coming beauty which will be yours in the future. You walk on, noting the lovely green tint spreading over the land, and you draw long breaths of the pure air, so full of revivifying power. Yonder are some lovely fern fronds. You take them home to decorate your supper table. The brook, with all its witchery, is calling you. Pay it a visit, forget the pile of mending awaiting you, and listen to its pleading. One such spot on a farm will add numberless moments of pure happiness to your life if you will but pause a moment to take in its beauty. Sisters, our lives on the farm must needs be busy, and disappointments will come, but "Loss and anguish are only the beat Of wild March rains that bring the sheaves,

And a wind of Heaven will woo our feet To vales of peace in the harvest eves."

We can do so much if we will to elevate the tone of farm life. Let us learn to love our work. These humble country homes can be made as full of refinement, its inmates be as appreciative of Nature's loveliness as those who live in grander homes. We who live in dear country homesteads possess precious memories, do we not? We must attend to the useful, the needful, yet let us not "drudge." Let us not be blind to bursting bud, unfolding leaf. Cease envying the city housewife, and let the loveliness of the land, the bounty of this great world, pervade your spirit till your work ceases to be a tiresome burden, and you look on it as a privilege. Nature in all her exquisite color and form will lead your aspirations toward peace and beauty. I know there are moments of great stress and anxiety on a farm, but let us not ignore the charm of "God's great out-of-doors." Our journey toward the "sunset land," must needs be at times up hill, over stony places, yet the blue sky is above you, pure air about you, and green grass and wayside flowers will greet you. In the words of another, let us "be brave in peril, constant in tribulation, temperate in wrath, and in all changes of fortune, and down to the gates of death, loyal and loving, one to another."

Antrim Co. MRS. C. E. JACKSON.

The Telephone, the Trolley and the Rural Mail Delivery bring you everything you need from the city except



entertainment

By entertainment we do not mean that which you obtain from books, magazines or pictures. We mean the kind offered by the theatre, the concert or the opera.

You get such entertainment occasionally, but you go a long way for it, you pay a good price for it, and you often find that it is not worth the time, the price or the effort.

You work in the country and it is usually long hours. The time you have for entertainment is short, or at least made up of short intervals.

At night, for instance, there is an hour or two between supper and bedtime. You can go out; you can go to a neighbor's or you can go to town.

But you generally go to bed; not that you need this extra hour or two of sleep, but because there is nothing entertaining, diverting or informing that you can enjoy without more effort than you care to exert.

If at such times you could put on your slippers, light your pipe, lean back in your chair and listen to good music, a good song or an amusing story, wouldn't it be worth while?

That is the idea back of the Edison Phonograph. It collects the songs of the best singers and the music of the best bands and orchestras and spreads them broadcast throughout the homes of the country.

The EDISON PHONOGRAPH

is a wonderful thing. It seems commonplace because it is no longer new, but it does what no other instrument does. It carries the talent of the world's greatest artists into the home and places it at the disposal of whoever cares to listen.

The Edison Phonograph is Mr. Thomas A. Edison's development of the sound-reproducing idea which he invented. It is made under his personal supervision and has the benefit of all of his improvements.

Among its exclusive advantages are its indestructible reproducing point which never needs to be changed; its long-running, silent steel spring motor, most essential to brilliant work; its sensitive cylinder Records, famous for their sweetness and richness of tone and for their faithful reproduction of a singing voice or the notes of instruments; its large, specially made horn, which brings out every note or word with great force and clearness; and its new Amberol Records, playing twice as long as the regular Edison Records and offering selections heretofore impossible because of their length.

The dealer in the city where you trade will gladly demonstrate the Edison Phonograph if you will call, or send you a catalogue giving styles and prices if you write.

We will send you this book free on request

A home is a home whether it is in the city or the country. We have prepared a handsomely illustrated booklet called "The Edison Phonograph and the Home." It tells what the Phonograph brings into a home—your home.

We Want Good Live Dealers to sell Edison Phonographs in every town where we are not now well represented. Dealers having established stores should write at once to

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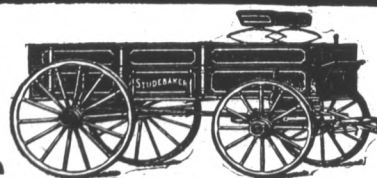


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**Means
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and that's what the prudent man wants when he buys a *vehicle* or a *set of harness* of any kind—something that *will last* and give *absolute satisfaction* in every day of its life. You can't afford to run risks. You can't afford the false economy of "cheap" wagons or "cheap" buggies or "cheap" harness. If the *Studebaker* is better you want it—and you can see that it's better if you will only examine it. Superior materials and superior workmanship makes superior quality.

See the Studebaker Dealer Examine for yourself the materials used in the *Studebaker*. See how well the *Studebaker* is made—note the light draft of the *Studebaker*—and you'll not wonder that more *Studebakers* are sold than of any other make. See for yourself. If you don't know a *Studebaker* dealer we'll be glad to send you his name. Mention this paper, send us two cents in postage and we will mail you free *Studebaker's* 1909 Farmer's Almanac, containing, "In Oklahoma," Cyrus Townsend Brady's inspiring story of pioneer days.



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GRANGE

Our Motto—"The Farmer is of more consequence than the farm, and should be first improved."

WHAT HATH FARM ORGANIZATIONS WROUGHT?

What a furore the fact of a Country Life Commission created! But surely its appointment and work resulted in an awakened rural consciousness. People had plodded along as if we had no such great thing as rural life when, presto, everybody began talking about it!

The fact that you can cut a bias two ways of the cloth has been clearly demonstrated, too, in all the discussions pro and con. Extremes have met. The seamy side and the bright side of farm life have both been held up as if each was the only side. And yet the two make a whole in nearly every neighborhood. The half only is told where alone the privations, the inconveniences, the mental barrenness of the sixteen-hour-a-day life is depicted. Only the other half is seen when rural homes are pictured as being redolent of ease in luxurious, steam-heated, electric-equipped, palatial residences. It requires both to strike the character of the more numerous medium farm homes.

Perhaps no one article on the farm life question was read by more people than the page editorial in a prominent woman's magazine for February; 1,100 farmers' wives and daughters in one county, it alleges, were asked to give a frank opinion of farm life; 956 answers were received, it is said, and the major part of them breathed with scorn of their country living. The man of the house was charged with being the chiefest sinner and the cause of most of the hard conditions. He was accused of utter indifference, in the majority of cases, to the comfort and convenience of women in his home. If true, it is a terrible arraignment of rural mankind. True, it may be in isolated cases, but that such is a fair view of average farm home relations it is hard to believe. Would 956 farm women, out of 1,100 in any Michigan county, for instance, denounce their home life because they toiled as slaves and could not get ordinary conveniences to lighten their daily tasks? Rather, have not men and women in our rural social associations, by precept, example and observation, come to learn a "better way?"

Beginning outside, changes have also invaded the home. A town woman, in an institute this winter, asked a farm woman if she covered milk to keep it properly. "I do not keep milk," was the serene reply; "it is separated at the barn and the cream sent to the creamery." The fact in this statement is but one in a train of changes that have been coming rapidly into even the humblest farm homes. The cream separator, washing machine, carpet sweeper, gasoline stove, hot and cold water systems, bathroom and lawn mower have followed hard upon the heels of the binder, mower, tedder and power engine. These are not luxuries but necessities, that go with working and living in the ideal of the common farmer who belongs to farm organizations or lives in communities where they exist.

It is safe to assume that the magazine above referred to did not secure its data from Michigan farm counties.

JENNIE BUELL.

OUR GRANGE FIELD.

Our Grange, being founded on brotherhood, has a field as wide as the world. Every flower and every grain field are for others as well as ourselves. We enjoy sharing them. But men must be educated to know their rights and brave enough to defend them, or they still have none. We pity before we defend. We are slow to espouse another's cause, where intellect and courage are both lacking. It took years of agitation before we liberated our slaves. We did it then for humanity's sake. Have we any white slaves to liberate? Look at the slums in our towns and cities.

So you see our lot for others' uplift gives us a wide field. Yes, it is the same field our best motives occupy. And I'm not afraid of politics in the sense of intelligent discussion of measures. Let us work in a non-partisan way for a good cause. I've no sympathy with the prohibitionist who found fault with the local option movement, the other day,

and said, "My party will never get into power." Put good things to the front and never mind party. I care not so much for my party if its principles are made into law. A Chicago banker said at a recent banquet in Detroit, "The United States has the largest gold reserve (\$900,000,000) of any nation in the world and the least effective." He advocated a measure in the interest of all the people, viz.: a central bank of issue only, with directors representing all parts of the country. That's along the line of brotherly love. He cannot too closely study primary principles.

And so we multiply instances of field work in our Grange. A higher and more hopeful ideal of life would encourage many disconsolate ones. Patrons, we have not made our field. We have just dropped into one already made by our Creator. A well-read library of high-class books would help us to be the real heroes of life stories we lead. They ought to strengthen our good resolutions to make the best of our situation. Our field is the world. Ella Wheeler Wilcox has said: "To sin by silence, when we should protest, makes cowards out of men. The world has climbed by protest. Had no voice been raised against injustice, ignorance or crime, the inquisition yet would serve the law and guillotines decide our least disputes. The few who dare must speak and speak again to right the wrongs of many."

POMONA MEETINGS.

Charlevoix County.

Charlevoix Pomona Grange met with Wilson Grange Feb. 11. In spite of the cold weather and long distances, which some were forced to travel, over 100 were present, nearly all of whom were Pomona members. As Charlevoix Pomona has declared its intention of sending 500 Patrons to Traverse City next December, the program was largely taken up by the officers outlining their plans for the year. Worthy Master Ward explained that while he wished a constant effort to be made to gain new members, special effort would be asked in work for the re-instatement of former members. The officers of Pomona will make visits to the different Granges thruout the year. Special attention will be asked of secretaries in the collection of dues. The lecturer asked the full co-operation of all members in his line of work.

The Grange pledged itself to use its best efforts to secure local option in the county this spring, advocated the teaching of manual training in the public schools, also the elements of agriculture, pledged itself to work with the Pomona officers in securing 500 to go to Traverse City next December. Thruout the program, music and recitations were furnished by Wilson Grange; this Grange also supplied a genuine Grange dinner and supper. After initiating 13 in the fifth degree the Grange closed to meet with South Arm Grange in April.—Glenn M. Dubois.

Lapeer County.

Lapeer Co. Pomona met with Almont Grange on Feb. 3 for the first meeting of the year. After a short business session at which a resolution was presented and concurred in asking for a joint meeting of the County Teachers' Institute and Pomona Grange in the near future, dinner was served. Immediately after the fifth degree was conferred on four candidates. Bro. E. A. Holden, of Capital Grange, gave a talk on co-operation which was well received. The Almont team then gave the first degree, in rhyme, in a very impressive manner, after which the new officers were installed by Pomona Delegate M. W. Judd. This was a pleasing feature of the afternoon and showed much that and study in the preparation.

The evening session was open to the public, and the fact that the opera house was filled shows that the public knew of the treat in store. The principal address was given by E. A. Holden on "The Grange as an Educator." "The County Road System" was discussed by C. B. Scully, of Almont, who declared it to be a sound business proposition. The program was pleasantly interspersed with recitations and vocal and instrumental music.

Helena Grange, No. 676, located at Alden, Antrim Co., closed a very successful year's work with the last quarter of 1908. Ten new candidates were instructed in the four degrees, making now about 80 members in good standing. A very nice installation ceremony was performed Jan. 27, in which the following officers were installed: Master, Wm. Chapman; overseer, T. H. Paige; secretary, J. L. Maxon; treasurer, John Russell; lecturer, Mrs. J. L. Maxon; chaplain, Mrs. C. S. Wheeler; steward, Geo. Baundy; ass't steward, Roy Armstrong; lady ass't steward, Marjorie McFarren; gatekeeper, Seymour Evans; Pomona, Maggie Baundy; Flora, Myrtle Kitchen; Ceres, Ruth Armstrong. Bro. Henry Lasher and wife, of Mancelona Grange, were the installing ritual. No ritual was used during the entire ceremony, all being given from memory, after which a very nice report of the State Grange was given by Bro. and Sister Lasher.—W. M. Paige.

COMING EVENTS.

Pomona Meetings.

Kent Co., with South Lowell Grange, at Alto, Wednesday and Thursday, March 3 and 4.

FARMERS' CLUBS

Address all correspondence relative to the organization of new Clubs to Mrs. W. L. Cheney, Mason, Mich.

WHAT MIGHT BE EXPECTED OF THE YOUNG MAN OF TODAY.

Paper read at the Associational Meeting by C. B. Scully, of the Berlin and Almont Farmers' Club, of Lapeer Co.

In appearing before you on this occasion, the Sixteenth Annual Meeting of the Michigan State Association of Farmers' Clubs, I wish to express myself as considering this one of the many pleasures of my life, i. e., the meeting and mingling together of the sturdy tillers of the soil for exchange of intercourse for better knowledge and moral uplifting of the conditions of the farmers of this great state, Michigan, my Michigan. You undoubtedly are wondering what stress I am going to put upon the young man of today. I wish to state frankly and candidly that I do not intend to shoulder all the responsibilities and burdens of this great commonwealth of ours upon his untiring, mental and physical anatomy, then let the older generation go scot free. No, not I. I am not a believer in Dr. Osler's theory, that the human being naturally becomes demented and practically useless at the age of 60 years, and ought to be chloroformed. Many of our greatest statesmen, scientists, philosophers, college professors, etc., never received any particular notoriety until they had reached about the above stated age. Therefore, it is good judgment on the part of the young and middle-aged class to secure as much of the knowledge of our fathers and grandfathers as we are able to put into practical use in these modern times. It may be truthfully said of those who are so bigoted or conceited, that in this golden age of American progress, amid the great strife of competition in all classes of business, he that can learn nothing from his fellowman's experience will soon, if he has not already, become a back number in the annals of life. I think this is more forcibly brot to our notice in the agricultural districts among our brother farmers, than any other occupation.

How often we find in our older settled districts, where the people are comparatively well-to-do, there being no excuse on their part for lack of finance, but still that lack of energy in tidiness and appearance is manifested on all quarters, such as stagnant water holes in yard or near dwellings, stones and rubbish scattered about yards and down lanes, fences lined with stone piles and scraggy growing bushes, usually some dilapidated out-buildings, house and barns in a grim rustic nature, prone to decay for lack of a few dollars' worth of paint and a little time to apply it; and, perhaps, last but not least, the what should be "called lawn, has not been mown, and may be entirely absent of those beautifying features such as a few shrubs and ornamental bushes which would add so much to appearances. I am proud to say that from my observations in the more newly settled districts these conditions seldom occur, and that public buildings, high-roads, etc., are built and maintained with as much or more pride and zeal in many of our northern counties, with an approximate valuation from five to eight millions of dollars, in comparison with our central and southern counties, worth approximately from 16 to 40 millions of dollars. This is absolutely true in regard to good road building. With the exception of Wayne and Kent counties, the far greater mileage of good roads that has been built since the establishment of the State Highway Department, (and by the way, I believe this department to be doing fully as much for the improvement of country conditions as any state department since its establishment), has been built in the north central and northern counties. What is the cause of this state of affairs? I believe the age ratio per capita to be less in these districts than in the older, more thickly populated and much wealthier counties of the south. If this be true, it at least partially explains the situation. For the young man of today with the many advantages over the older generations, such as advanced knowledge in all classes of business, but particularly of agriculture, with access to, and the free distribution of literature in bulletin form, from our Agricultural College, also the U. S. Department of Agriculture, by which, from careful thought and study we are able to

procure much useful knowledge from experiments, and thru the carefully kept records of the numerous experiments conducted under the supervision of our professors and scientists, of the various branches of agriculture, and animal industry, of these noble institutions of which we are and ought to feel so justly proud. It can plainly be seen that at present perhaps more than in the past, the younger generation, with a firm and steady stride, will shoulder more and more of the responsibilities of running the great wheels of this vast universe, and they are amply prepared for managing the questions of the day, from the plowman to the statesman, in a much more able manner than in the days of Thomas Jefferson or Abraham Lincoln. We no longer live the life of our fathers, but on the other hand, they are endeavoring to live many of the examples set by us. The up-to-date farmer of today is no longer termed as hayseed, numbskull, whatnot, etc., but on the contrary, is looked up to and considered as good an advisor as a man of any avocation in life.

(Continued in next issue).

CLUB DISCUSSIONS.

Hold Memorial Meeting.—The February meeting of Ingham Co. Farmers' Club was held with Mr. and Mrs. Taylor at "Lone Oak Farm," and was observed as a Lincoln Memorial. President Ives gave some personal reminiscences, Mrs. W. H. Horton gave a paper on the "Home Life of Lincoln," Miss Winfield read "Why Should the Spirit of Mortal be Proud," and Miss Elsie Taylor gave a recitation. This, with suitable music, made an enjoyable program. We also had Judge Ostrander, of Lansing, with us, who talked upon "Legislative Power as Regards Corporations." A resolution was passed endorsing the work of Warden Otis Fuller, of the Michigan Reformatory, who used to be an active member and is now an honorary member of this club. The committee appointed to see about stationery in view of club publicity have done their work and had the paper ready for sale. It consists of common square paper with the regular club heading and list of officers on the front page and on the back a directory of club members, giving the name, postoffice address, farm name, telephone number and any special line of work. This is put in pads at 25c each and is a great convenience to say the least, as it has been hard work sometimes to know just who the members were. Also, we have yearly programs. The March meeting will be held with Mrs. Haskell and the township unit school system will be thoroughly discussed. The ladies' subject will be "Rest and recreation on the farm," led by Mrs. Marshall.—Mrs. J. E. Tanswell, Cor. Sec.

Another Lincoln Meeting.—The Berlin and Almont Farmers' Club met at Fairview, the spacious home of Mr. and Mrs. E. C. Hallock, for its regular meeting on Feb. 10. Seventy-four were present to partake of the usual good dinner. In taking up the regular order of business the club opened by singing America, after which Rev. R. H. Monroe led in prayer. The roll call was answered by quotations from place cards on which were sayings of Lincoln, or what others of note had said of him.

Appoint Legislative Committee.—Under the head of new business the president appointed a legislative committee whose duty it is to keep in touch with the State Legislative Committee relative to proceedings in the legislature, either beneficial or detrimental to the farmers of Michigan. The committee are: James R. Hamilton, L. F. Chandler, and George Messer.

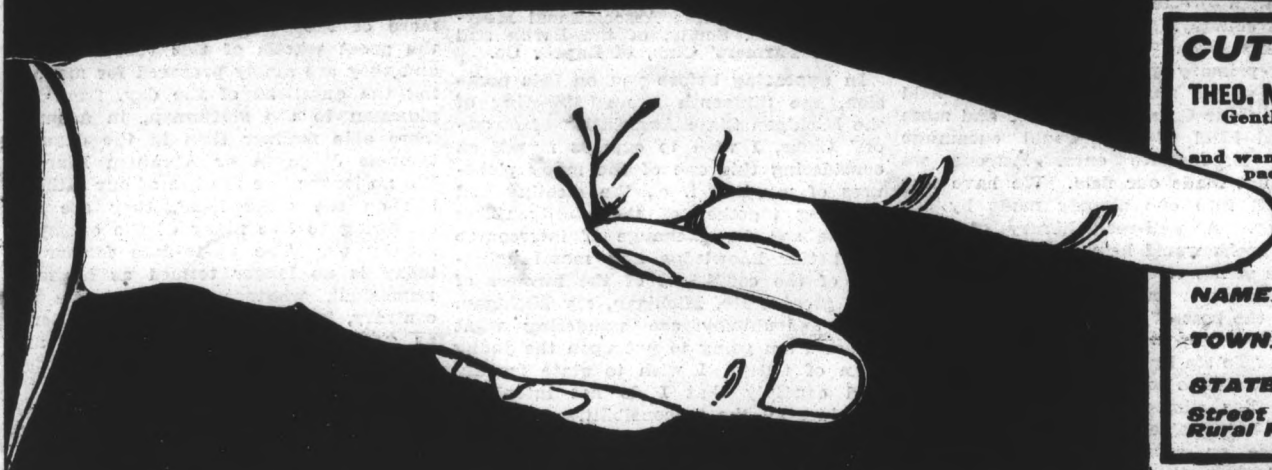
Resolutions.—Inasmuch as such bills have been introduced in the legislature, therefore be it resolved that we, the Berlin and Almont Farmers Club endorse a bill relative to subjecting all cattle in the state to the bovine tuberculosis test, placing the same under the control of the State Sanitary Commission. Provided, that since it is for the public benefit, we demand that the entire cost of the test should be defrayed by the state and condemned animals unfit for meat or milk production shall be paid for by the state according to appraisal rendered on a basis for beef and dairy purposes.

Be it further resolved, that we express our attitude toward the bill introduced by Rep. Whelman, of Shiawassee Co., relative to dispensing with the State Highway Department. Thus, that we believe said bill to be a scandalous denunciation toward our efficient State Highway Department, and fully realizing the benefits that may be derived from such a State Department we would urge our senator and representative from this district to exert all honorable efforts against the above mentioned bill and toward the continuance and maintenance of the State Highway Department.

Be it further resolved, that we endorse the bill providing for an annual license of not less than ten dollars (\$10) on all automobiles owned or run in Michigan. The amount received from such license to go for the benefit of good roads construction. The above resolutions were unanimously adopted. Then came the program, which consisted of songs, poems, readings and sketches paying highest tribute to our honored and martyred president, Abraham Lincoln, on this hundredth anniversary.

The club gave Mr. and Mrs. Hallock a vote of thanks for entertaining the club and adjourned to meet with Mr. and Mrs. L. F. Chandler the second Wednesday in March.—Mrs. C. B. Scully, Cor. Sec.

USE THIS COUPON



CUT OUT THIS COUPON

THEO. NOEL CO., Vitae-Ore Bldg., CHICAGO.

Gentlemen—I have clipped this coupon from

THE MICHIGAN FARMER

and want you to send me a full-sized One Dollar package of Vitae-Ore for me to try. I will not pay you one single penny if it does not benefit me. I am to be the judge. The following is my address, to which trial package is to be sent by mail, postpaid:

NAME _____

TOWN _____

STATE _____

Street or Rural Route _____

We Do the Rest.

Get your scissors or knife and cut out the coupon. Write your name and address plainly on same and mail it to us. We do the rest. This is all we ask, all we need, for we just want to know that you need it and will use it when it comes to you. If you want to write a letter, telling us something about your case, we will be glad to receive it and read it carefully, but you don't need to unless you want to, for the COUPON TELLS IT ALL. You don't need to send any money, don't need to send any stamps, for the trial is AT OUR EXPENSE—NOT YOURS. We believe in Vitae-Ore and are willing to back our belief with OUR MONEY and don't ask you to believe until you have seen, until you have felt, UNTIL YOU KNOW. That's the kind of remedy Vitae-Ore is—that's the kind of people we are. If you want to try such a remedy, if you want to deal with people who don't want your money unless you are benefited, if you want to get cured without waste of money, and in the shortest possible time, USE THE COUPON TODAY and start the treatment which your neighbors and thousands of others have followed to success.

Not New, But True

DANIEL WEBSTER once said about a certain political idea, "There are lots of new things about it and lots of true things—the trouble is the NEW things are not TRUE and the TRUE things are not NEW." There is nothing new about Vitae-Ore—you have heard of it before—you couldn't help hearing of it. Its name has appeared in this paper, year after year. You may not have read our offer, nor answered it, but you ought to have done so. Our offer in this advertisement, the claims we make for Vitae-Ore, the arguments we give, are not new, but IT IS ALL TRUE. You have but to write, to send for it, to direct that it be sent to you—and it is sent to you. NO QUESTIONS, NO QUIBBLING, NO MONEY. If you want to pay for it, all right. If you don't, YOU DON'T HAVE TO. Enough are SATISFIED, enough want to pay, ENOUGH DO PAY to make Vitae-Ore's fame grow from year to year like a green-bay tree, and it is because IT IS ALL TRUE. Your fellow readers who have sent for a package and tested it have proven this. ITS HISTORY IS AN OPEN BOOK and all will find it ALL TRUE.

TOOK MEDICINE 20 YEARS.

Doctor Said He Had Kidney and Liver Trouble, Catarrh and Bronchitis, But Did Not Help Him.

APALONA, IND.—I feel it my duty to tell what Vitae-Ore has accomplished for me. For the last twenty years I have taken all kinds of medicine, but at no time received more than a slight temporary relief. Three years ago I took treatment from one of the best doctors at Leopold, Indiana. He examined me and gave as his opinion that I had Liver and Kidney Trouble, Catarrh and Bronchitis. I was at that time taken with a severe pain in my back which he diagnosed as Rheumatic Lumbago. I doctored with him continually and persistently for five months' time, getting relief for only a very short time, and gave up hope of ever getting well again. Vitae-Ore was recommended to me by a friend who had used it and spoke of it very highly. I procured a full treatment and began immediately to use it according to directions. As a result, my suffering is now a thing of the past, and my cure is a permanent one, as this occurred fifteen months ago, during which time I have felt as well as I ever did in my life and continue to feel so. I am forty-four years old. My wife also has reason to praise it as strongly as I have, she having been cured by its use of a Stomach Trouble. I conscientiously believe that Vitae-Ore has saved my life.



JOSEPH L. MEUNIER.

IF YOU ARE SICK AND AILING,

no matter what the trouble may be, if you need help, if you want help, HERE IS A CHANCE FOR YOU. How can you, in justice to yourself and your family, your friends and those about you, refuse to accept? How can you refuse to be helped to the help you want? WE TAKE ALL THE RISK! Read our trial offer, and mail the coupon today!

Suffered 10,000 Deaths.

Doctored 15 Years with 11 Doctors for Stomach, Heart, Kidney and Female Troubles.

DAWSON, TEXAS.—I bless the day that I sent for a trial treatment of Vitae-Ore, for my health is better now than it has been for years. I have suffered so long and so much for fifteen years, at times almost death. I had consulted and doctored with no less than eleven doctors during that time, the best that could be had in this vicinity, but they couldn't help me at all. Each one treated me for a different ailment and none seemed to make out just what my trouble really was. Some said it was Female Trouble and I was therefore operated on for same, but got no relief. I then doctored for Stomach, Rheumatism and Heart Trouble with the same disappointing results. I suffered ten thousand deaths. My Kidneys were in an awful fix; they would act often, but very scant and thick with sediment and blood. I would have sinking spells and my Heart would palpitate so terribly that I thought my time had come. A terrible pain would start in my left hip and go down my left leg and I would froth at the mouth like one in a fit. I would vomit every day for weeks at a time and often could not retain even water on my stomach. Two packages of Vitae-Ore did more for me than \$100.00 worth of the other medicine I had taken. I feel better than I have for fifteen years, sleep like a child, can eat well and have gained in weight, now weighing 147 pounds. I am thirty-three years old. My periods are no longer painful, although formerly they caused me such pain that I would have to lie in bed; my kidneys now feel sound. I am forever trying to induce sufferers to use Vitae-Ore and thus repay some of the debt of gratitude I owe to it.



MARY E. ROBERTS.

This is Our 30-Day Trial Offer!

WE WANT TO SEND you a full-sized One Dollar package of Vitae-Ore, enough for 30 days' continuous treatment, by mail, postpaid, and we want to send it to you on 30 days' trial. We don't want a penny—we just want you to try it, just want a word from you asking for it, and will be glad to send it to you. We take absolutely all the risk—we take all the chances. You don't risk a penny! All we ask is that you use V.-O. for 30 days and pay us \$1.00 if it has helped you, if you are satisfied that it has done you more than \$1.00 worth of positive, actual, visible good. Otherwise you pay nothing, we ask nothing, we want nothing. Can you not spare 100 minutes during the next 30 days to try it? Can you not give 5 minutes to write for it, 5 minutes to properly prepare it upon its arrival, and 3 minutes each day for 30 days to use it. That is all it takes. Cannot you give 100 minutes time if it means new health, new strength, new blood, new force, new energy, vigor, life and happiness? You are to be the judge. We are satisfied with your decision, are perfectly willing to trust to your honor, to your judgment, as to whether or not V.-O. has benefited you. Read what Vitae-Ore is, and write for it today.

WHAT VITAE-ORE IS.

Vitae-Ore is a mineral remedy, a combination of substances from which many world's noted curative springs derive medicinal power and healing virtue. These properties of the springs come from the natural deposits of mineral in the earth through which water forces its way, only a very small proportion of the medicinal substances in these mineral deposits being thus taken up by the liquid. Vitae-Ore consists of compounds of Iron, Sulphur and Magnesium, elements which are among the chief curative agents in nearly every healing mineral spring and are necessary for the creation and retention of health. One package of this mineral substance, mixed with water, equals in medicinal strength and curative, healing value, many gallons of the world's powerful mineral waters drunk fresh at the springs.

For Both Internal and External Use.

An Aid To Nature

Nothing is more wonderful than the economy of nature, the natural forces that work in the body, day and night, waking or sleeping, to recuperate from exhaustion, to eliminate what has served its purpose, to supplant decayed tissues with healthy material, to supply new strength and energy for that which has been expended. It is the same vital force that is at work in all forms of life in the whole universe, both vegetable or animal, and no better term can be applied to it than "the economy of nature," for it is truly "management without loss or waste." And it is an economy which is not parsimony. For nature gives generously for all the normal duties of life, when her generosity is not abused.

But it is an economy, which like all other economies, must have all its workings in perfect harmony, and is of little value when there is a LEAK somewhere, when there is a DRAIN which unnaturally depletes the resources. Its usefulness is impaired when some organ refuses to perform its share of the work and does not properly co-operate in the great natural mechanism which so ably controls life, health and all vital energy.

When this bodily condition presents itself, and nature, by some abnormal manifestation, is proclaiming her need of assistance, Vitae-Ore steps into the breach as an effective aid to nature, to assist her in her work of recuperation, to help whip recalcitrant forces and organs into line, to provide nature with materials she demands and tools she needs in her reconstructive work. As all know, if we bruise the skin on any part of the body, nature immediately starts her healing processes, but if the blood is poor and vitality low, if the proper materials for nature's work are not in the body, the wound heals slowly and complications may ensue—help nature, and the work is speedily accomplished. Nature is a perfect mechanic and a most wonderful artisan, the like of which all man's inventive genius has been unable to successfully counterfeit, but like all mechanics, she needs proper materials for her work or she cannot perform it.

You Are To Be The Judge

IF YOU SUFFER FROM Rheumatism, or any Kidney, Bladder or Liver Disease, Dropsy, a Stomach Disorder, Anaemia, Sores and Ulcers, Constipation, Piles or Other Bowel Trouble, Impure Blood, or are just Run-Down or Worn-Out, send for a 30-day trial treatment of Vitae-Ore right away and see what this remedy will do for you. ADDRESS US AS FOLLOWS:

THEO. NOEL CO., M. J. Dept. Vitae-Ore Bldg. CHICAGO, ILL.