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FARM NOTES.

Alfalfa for Low Land.

I would like some information regarding the sowing of alfalfa. I have a four-acre lot of black soil situated near the bank of Grand river and every year about the latter part of March the river overflows its banks and water stands on the crops for a period of from one to two weeks. The water is cold at that time of the year and we have not had much trouble with water doing the crops much harm. Would you advise me to prepare a good seed bed and sow this fall or wait until next spring? Would it be beneficial to sow some crop that could be plowed up next spring and seeded down to alfalfa?

Kent Co.

H. D. P.

Bottom land that overflows in the spring would not be well adapted to alfalfa. The one condition which is said by those with long experience in its culture that alfalfa will not endure is a wet soil, that is, a soil where the water level is comparatively close to the surface. The flooding of the land for a short time in the very early spring might not ruin the stand, but land that overflows should be tried in an experimental way, if at all, for alfalfa. It would seem a much better way to experiment with this by sowing it to grasses better suited to the location, such as alsike, clover, timothy and perhaps one or two other grasses, and mix in some alfalfa seed, sowing a small plot to alfalfa alone. This will demonstrate whether the soil is too low and too wet to grow the crop satisfactorily or not and in the event of failure will not be as expensive in either the cost of the experiment or the time for which the use of the land is lost for other purposes.

Top Dressing Alfalfa—Disking—Seeding in Wheat.

I would like to learn through the Michigan Farmer if you advise top dressing alfalfa. How many loads to the acre? Also, if disking is good, and what time of the year to do it? I would also like to know if a seeding will be successful in wheat if the ground is top-dressed and then dragged with spiketooth drag directly after sowing the seed? We have three acres of alfalfa on our farm and wish to sow eighteen acres more in the spring if it can be successfully done in this way.

Jackson Co.

F. E. W.

So many questions arise regarding the proper culture of alfalfa which it is difficult to answer on account of our limited experience with it in Michigan, that we fear many readers will feel that it is not worth while to experiment with it. But it is by experimenting with it that we will solve all these vexed questions which those who have had successful experience with alfalfa are now apt to answer in various ways. But actual experience gained on our own farms and under our own conditions will tell us more about how to grow alfalfa successfully under those conditions than any amount of advice from others. It is for this very reason that our readers have been urged to sow alfalfa in an experimental way at least, and try out the ideas which they get regarding it. This the inquirer is doing, and his experience will be of value to other readers, but there is little experimental knowledge by which one can be guided in giving an opinion on some of the points raised in this inquiry.

So far as top-dressing alfalfa is concerned there is probably no doubt that it will benefit the stand and the crops produced to give it a light top-dressing of stable manure once in two or three years.

While stable manure is rich in nitrogen and the alfalfa plant is supposed to be able to provide for itself in this direction, yet the manure will benefit it by its mulching effect and in adding vegetable matter to the soil and by promoting the activity of soil bacteria not a little. However, it is not best to apply the manure too thickly. A thin dressing will be sufficient to answer the desired purpose and will have the advantage of obviating any danger of smothering out plants and injuring the stand. We have seen at least one case where the stand of alfalfa seemed to be harmed by the application of a heavy coat of manure as a top-dressing during the growing season, although it is probable that as heavy an application

pose of killing the weeds and grass and letting the air into the soil, as well as mixing the manure with the soil would be accomplished.

As to the desirability of disking, there is some difference of opinion. Those who have tried it in Michigan seem to favor the practice almost to a man, as do the best authorities in the more humid regions where the crop is grown. In Colorado the experiment station recently issued a bulletin in which growers were recommended not to disk the alfalfa. Thus it will be seen that it is a matter of choice of authorities, how one should advise upon a question of this kind. Every grower should experiment in this regard and disk at least a portion of his alfalfa and note

grass in case the alfalfa fails to make a good stand sown in this way, the experiment would be a valuable one. It is a good plan, and one which a good many farmers are following at the present time, to sow a little alfalfa seed with the clover seeded in grain in the spring with a view of getting the soil inoculated with the proper bacteria. This also will help one to the information which this inquirer is seeking, as to whether alfalfa can be successfully seeded in wheat by top-dressing with manure or otherwise. Where the seed is sown alone without any nurse crop, it is not a good plan to top-dress with stable manure on account of the weed seed which is sure to be distributed in this way. Where the seeding is done in wheat this objection would not be as well founded since the weeds would get little start until after the wheat was harvested, and could be easily clipped back later in the season. But of the two methods of preparing the ground for the seeding of alfalfa in wheat the writer would prefer an application of lime before the wheat is sown, unless positive that there is already plenty of lime in the soil, since it seems to be pretty well demonstrated that the presence of a good percentage of lime in the soil is an essential to success with the crop.

Were this case the writer's he would sow a part of this field to alfalfa alone in the wheat, and the balance of it to a mixture of alfalfa and June and alsike clover with such other grasses as may be desired. In this way one would get valuable knowledge from the resulting experience and by top-dressing a portion of the field in a strip running the other way across from that in which the seed was sown, and by applying lime to a portion of it in the same way, one could not help gaining some valuable knowledge from the experiment. If we can get seedings of alfalfa in our grain crops the same as we do of clover, it will revolutionize the methods of growing it in this state and add greatly to its popularity. We believe that as soon as we have gotten our soils well inoculated and the plant thoroughly acclimated to our climate and conditions that this will be the case. In fact, one of the best seedings of alfalfa which it has been the writer's pleasure to see this season was seeded in oats under just the same conditions as clover would have been except that the oats were sown thinly, a fact, however, which did not lessen the yield of oats. Thus if in seeding alfalfa with wheat we do not get a perfect stand or if it is a complete failure we cannot ascribe it wholly to the method of seeding unless we have grown the crop with success on other land on the same farm. It may be the lack of lime, the lack of proper inoculation or unsuitability of the seed, or a dozen other conditions which causes the trouble, and which it will require careful study to solve. On the other hand, we may succeed at the first effort, since all these conditions may obtain which make for success with the crop. Thus it is impossible at the present time to give much positive advice with regard to the methods to follow in seeding the crop except in a general way, which is an added reason for general experimentation with the crop by the farmers of the state, as none who have had any experience

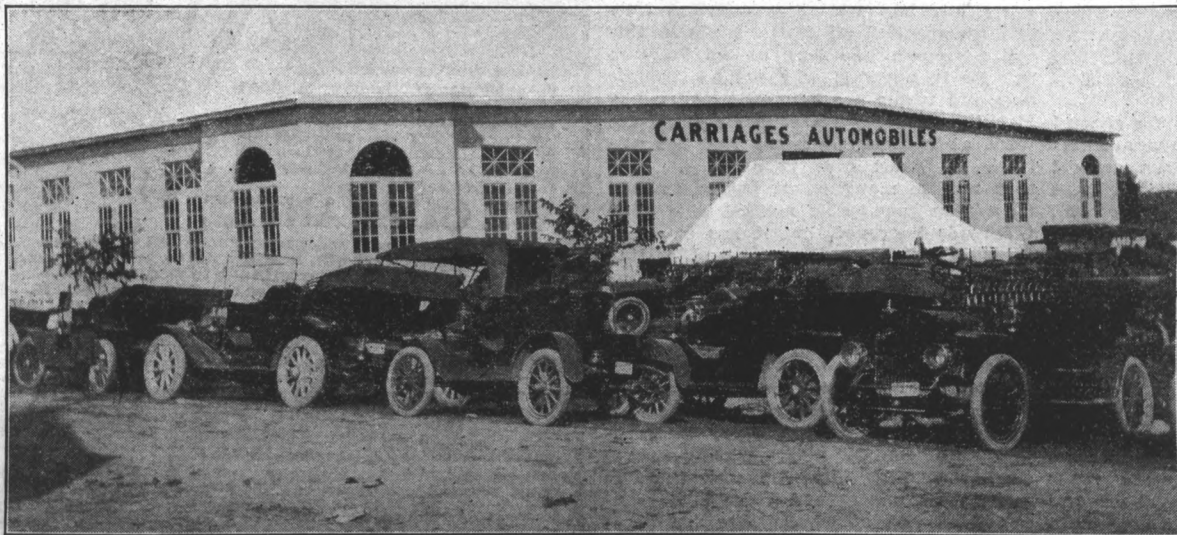


View of a Section of the Grain and Vegetable Exhibit at the West Michigan Fair.

might have been made during the late fall or winter when the plants are practically dormant without any injurious effects whatever, and it is not at all likely that in this case the damage will be apparent next season. Where alfalfa is top-dressed with stable manure the fall or winter season would be the most convenient and best time to apply the manure. Then it will get well settled to the ground and will not be raked up in the succeeding hay crop, and the roots of the plants will get a greater benefit from the plant food which will become incorporated with the soil. Where disking is practiced this may best be done in the spring after the manure has been applied in the fall or winter, as by this means the double pur-

the comparative results, not only for his own information, but as well for the benefit of others who would gain information by the object lesson afforded.

As to top-dressing wheat and seeding alfalfa in it, that would also be an experiment in almost any Michigan locality. While in a few instances alfalfa growers have secured good stands of alfalfa by sowing in wheat the same as clover is usually seeded, this plan has not been so generally successful as to make it safe to predict success where this method of seeding is employed. The writer would hardly like to try an 18-acre field in this manner, by sowing the alfalfa alone. But if some other clover seed is mixed with the alfalfa seed so as to make a stand of



View of the Front of the New Carriage and Automobile Building at the West Michigan Fair.

with it can fail to concede that its addition to our list of dependable forage crops would be a great blessing to the agriculture of Michigan.

Salt and Lime or Plaster as a Fertilizer.

Will you please give us information in regard to salt and lime, equal parts, as a fertilizer, or salt and plaster? Where a person has not the stable manure, will it pay to put on either of the above, and how much per acre? If so, what kind of lime in order to mix?

St. Joseph Co.

A. P. T.

Such a combination would not be profitable as a fertilizer, since it would not be a fertilizer at all in either fact or effect. As before noted in these columns salt adds nothing of value to the soil as a plant food, and the only possible benefit from its use would be as a discouragement to insects with which the soil may be infested, and there is a difference of opinion among farmers as to its value in this connection. Lime, however, is a valuable soil corrective, correcting an acid condition of the soil where it exists, and supplying lime in an available condition for such plants as are benefited by lime either directly or indirectly, among which alfalfa is the most conspicuous example.

SOME UPPER PENINSULA EXPERIMENTS.

We are trying a variety of new things in the farm line this season and some of the problems that have come up are beyond the writer's experience. In the first place, we let a contract to clear, including the removal of all stumps, an old homestead clearing of 20 acres. We have just seeded it to timothy, 8 lbs.; red clover, 3 lbs., and alfalfa 2 lbs. to the acre, except two acres which we put into winter wheat, with timothy and corn. If the alfalfa thrives we will lime this piece and make it solid alfalfa about four years from now.

Our next experiment is the clearing and drainage of a 40-acre swamp. The black muck is about one foot to three feet deep and there is a clay subsoil. Most of the water comes from springs in a nearby hillside and the swamp is about 1,500 feet from the Ontonagon river and eight feet above it, so we are for the present relying on surface drainage by several large ditches. As fast as we plow it we are cutting it up fine with our heavy disk harrow and later a light garden harrow and then we intend to give the seed some sort of a ted. We figure that in a few years the grass will rot and most of the roots and we can then plow very easily. Wherever we cannot clean up and seed we hope to seed very lightly to red clover, which is nearly a weed here, in order to keep down the brush and weeds until it can be occupied. There will be about one thousand acres of that land. Of course, the labor problem is our greatest. We will gladly have the advice of others in these undertakings. We are experimenting with yellow flint corn and have found no difficulty in ripening it here for four or five years past. Each year we are getting better ears and yields. We are also growing alfalfa in a small way and find it very vigorous here. Liming the soil is apparently more necessary than inoculation. Seed has ripened on six-year-old plants this year.

Ontonagon Co.

T. A. GREEN.

A PLAN FOR HIGHWAY IMPROVEMENT.

An experience of now practically two seasons with the present highway improvement system enables us to form some conclusions regarding its efficiency. Judged by results in general, a comparison with the former method of highway labor, with a money tax added, the present system suffers. This does not argue that a return to the old way is desirable, but that some improvement is needed in present methods.

At present it is doubtful if the general condition of the country roads are improving. While in places some general improvements have been made, yet quite largely the patching has been neglected, and the ruts and last winter's mudholes have been neglected and new ruts are being made, and the repairs in all of these cases have been meager, not enough to maintain the average condition of the roads. This is a condition that is observed and commented upon.

This is a matter that probably is not due to any lack of ability or efficiency on the part of the highway construction officials, as we have just as good men on these offices as formerly, when roads were gradually improving. There are doubtless different causes that contribute to it. One is that the highway expenditures are probably in many cases less

than formerly. In many townships the assessments for highway purposes are less than the total of money and labor levied under the old system. And, after all that has been said in criticism of the manner in which the labor was dawdled and wasted, the fact is that most men have a due amount of public spirit and pride in the highways, and the work for the most part was honestly and faithfully performed. Another, and probably the greatest of all, is that it has been impossible for the officials to obtain the help at the proper time. The law contemplates that the greater part of the work shall be done during the fore part of the season, and it is admitted that this is the best time of the year for doing it. But at this season all of the help is busy on the farms and is not available for more than a small fraction of what work is needed. High wages must be paid for what is obtained, and so the appropriations are sooner expended. In these ways the season passes and the money used up and not nearly enough work done. Another difficulty that has been named is that not enough men are provided to properly supervise the work, but probably if the means and men were available the present officers could put in more time by considerable and so more fully cover the ground.

Now, it is up to the people to meet the weak points in our system, for it is evident that some of them cannot be overcome by the most capable officials. If the work were undertaken by a private concern doubtless the first thing would be the purchase of four or five good teams and keep them at work the season through, for in any ordinary township there is enough work to keep such a force busy. But probably this would not be expedient for a township to undertake. Next to this would be the employment of this number of men with teams for practically the whole season. This, of course, would not be doing the work at the most approved time of the year, but it would be getting it done, which is the important thing. Help in this way should be obtained for \$3 per day for man and team for the season of, say, six months. Not much could be done in most parts of Michigan before the middle of April, and it is not expedient to attempt to do much after the middle of October. This would call for an appropriation of something like \$3,000 per year for work and material, which is not far from what many townships averaged under the old system, where no expensive bridges were needed.

Another method would be to plan to do considerable of the work during the winter season when men and teams are otherwise idle. The necessary grading can be done during the summer, and the holes and ruts kept in repair, but the greater part of the work required in most places is hauling gravel, and this can as well be done in the winter time as in late summer or fall, as is too often the case at present. It is admittedly better that the grading should lie for a time before the gravel is applied, so that graveling, if done in winter would doubtless be as expedient and profitable as if done at any other time. Help could be more cheaply obtained at this time as well. Farmers with just a little sense of economy would much prefer to do the work for \$2.50 in winter than to pay taxes to pay \$3.50 for the same work in summer, perhaps to someone who would scrap with the overseer because that official wanted full time and full loads for the money.

In the immediate vicinity of the writer there is a move towards doing considerable work next winter with donated labor. There were men and teams absolutely idle last winter a sufficient time to have graveled all of the roads in this entire section. As long as we have to pay for it, anyway, why not do it while help and teams are idle rather than pay high taxes to pay someone for doing the work at a time when no one has the time, or travel over poor roads. This may not, in many cases, appeal to men as a very practicable method of getting the roads improved, but it has two features in its favor, economy and getting the roads improved.

It is certainly up to the people to devise some means other than we now have, as has already been said, and what shall it be? There is a loud and growing protest against the roads in their present condition. As a certain president has said, it is a condition and not a theory that confronts us. In some places Michigan roads do not compare favorably with those in surrounding states and there is a reputation as well as convenience and profit at issue.

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HOW TO GROW ALFALFA IN MICHIGAN.

In the near future alfalfa is to become one of the most important crops in Michigan. With plenty of silage and alfalfa hay our dairies will become much more profitable, and all lines of agriculture will be more successful. On account of its high protein content alfalfa can be made to take the place of grain feed to a large extent.

During the past three years I have traveled over a large part of Michigan and have made a constant study of the successful alfalfa fields, and I am fully convinced that, with proper preparation, alfalfa can be grown successfully on almost all the farms of this state. At the present time, however, there are very few farmers who are growing this valuable crop successfully. Why is this? It is because little attention is being paid to a few fundamental things that must have careful attention if we are to succeed in growing alfalfa. If the following directions are carefully followed there will be few failures in any ordinary year.

Manure the ground heavily with a good quality of manure the fall before the crop is to be sown; or what is better, manure the land heavily the year before and precede the alfalfa with a cultivated crop. If the cultivated crop is properly cared for, the soil is left comparatively free of weeds and in fine condition for alfalfa.

Plow in the fall, and if the soil is heavy plow deep. If alfalfa is to follow a cultivated crop, it will not always be necessary to plow the land; but unless the soil is in fine tilth it will be advisable to plow. Alfalfa prefers a firm seed bed, consequently spring plowing does not usually give the best results.

As alfalfa likes lime, and because this crop does not do well on soils that are slightly acid, it will usually pay to sow lime in some form. On most soils in the middle states, from one to two tons of finely ground limestone rock per acre will give big results in the alfalfa crop.

Disk the soil to a depth of about three inches as early in the spring as you can do the work well. About two weeks later disk the soil again to conserve the soil moisture and to kill weeds. Sow the alfalfa seed at the rate of 15 or 20 lbs. to the acre, and harrow it in with a peg tooth harrow. On light soil the seed may be sown shallow with a drill. At the time of sowing, the soil should be inoculated by sowing on each acre from three to five hundred pounds of soil from an old alfalfa field that is known to be inoculated. This soil should be sown the same day the alfalfa seed is sown, and should be harrowed in with the seed.

The leading alfalfa growers advise sowing alfalfa without a nurse crop, and there can be no doubt but that this insures a fine stand of alfalfa. A light nurse crop is often seeded with alfalfa, but it is usually advisable to cut the nurse crop for hay, or else clip it back early in the season and let it lie on the ground. The alfalfa will need to be clipped back once or twice during the summer and early fall, but do not clip it back late in the fall as there should be quite a growth left for winter protection.

There is no use in sowing alfalfa on poorly drained soil or on soil that is in poor condition, and it is almost always necessary to inoculate the soil the first time we try to grow alfalfa on the farm. The time will eventually come when we will not need to inoculate for alfalfa as all our soil will be inoculated when alfalfa becomes a common crop. Clover bacteria do not inoculate for alfalfa, but the bacteria on sweet clover and alfalfa appear to be the same.

A stand of alfalfa should be good for several years, but it will pay well to top dress occasionally with well rotten manure. Commercial fertilizers also give very satisfactory returns. Do not buy nitrogen fertilizers, however, for alfalfa as the legumes take nitrogen directly from the air when the soil is properly inoculated.

Alfalfa is a great drouth resister after it is once fairly established. The farmers of Michigan and Wisconsin who have old established fields of alfalfa are not the ones who are offering their cattle cheap this dry year. Many fields in these states have already yielded four tons of hay per acre from two cuttings, and a good rain soon will add another ton to the total yield per acre.

Many of those who have made a study of alfalfa have come to the conclusion that alfalfa cannot be successfully grown on sandy soil, and it is a common opinion that alfalfa cannot be grown for seed in Michigan and Wisconsin. The observations I have made in these states would

lead me to the contrary opinion on both of these points. Sandy soils, rich in humus and top dressed occasionally, are giving very satisfactory results, and I have seen small patches of alfalfa on the sandy soils of Michigan and Wisconsin that were heavily loaded with seed. I would like very much to hear from any farmers in Michigan who are growing alfalfa successfully on sandy soil.

J. C. McDOWELL,
Agriculturist, U. S. Dept. Agril.

HARVESTING THE CORN CROP.

The question of properly securing the corn crop with the least labor and expense is now uppermost in the minds of most farmers. Many dairymen will say "Put it in the silo." This may be true of a large part of it for the farmer who has a silo, but many of us are not thus blessed, either because we have not enough cows or because we feel that for other reasons it would not be practical for us.

Several methods are open to us: 1. Cutting with a corn binder. 2. Cutting by hand. 3. Topping, and husking from the stalk. 4. Husking from the stalk and turning stock in during the fall to pick up the fodder. 5. Turning stock into the field to husk the corn and consume the fodder.

The first method, cutting with the binder, is out of the question with most fields in this vicinity because the corn is down too badly. Where it stands up well this may be feasible. We do not own a corn binder and can not speak from experience with them, though we have hired the cutting done and set up after them. We will not attempt to express an opinion on what we have had so little experience with. The second method needs no comment. Corn has been cut in the same way for years. There seems to be less improvement among the small farmers in methods of harvesting this crop than any other. Cutting by hand is still the method used on the majority of small farms in this part of the state, and it is claimed to be more satisfactory and as cheap as any method where the corn is to be husked by hand or even shredded. The problem is to get help to cut the corn when it should be cut. Many men will not cut corn at any price.

Topping secures fine fodder, and less bulky, and allows of some good feed for the late winter, while the cattle will get most of the husks during the fall and early winter, but it saves little labor as it takes about as long to top corn as to cut it, and practically the only saving of labor is in the handling of the fodder and the gain in time in husking from the stalk.

Husking from the stalk is, of course, wasteful of fodder and is not followed to any great extent, except for a part of the crop that the owner may not be able to get cut until it is badly frosted.

The method of turning stock into the field to "hog down" the crop is being followed by stock farmers to quite an extent as a method of handling a part of their crop to save labor. Of course, it is rather wasteful, but perhaps the gain in labor more than offsets the waste. In talking with those who have handled a part of their crop in this way I find that most of them are satisfied that this is an economical way of handling a part of the crop where there are hogs and steers to be fattened.

Calhoun Co.

S. B. H.

PLASTERING A STONE SILO.

I am putting up a silo 14x40 ft. out of stone and cement, 18 ft. in the ground at end of barn. I use forms on inside and build up of stone and cement mortar on outside. Now will you kindly tell me if plastering with cement on inside will be enough or will I have to put on a hard finish of some kind? I started the wall about 2 ft. at bottom and taper to 1 ft. at top.

Charlevoix Co.

J. J. G.

The plastering on the inside should have a hard finish coat. There is nothing better than good cement mortar for a hard finish. You don't want too coarse sand or gravel for this coat, rather fine, sharp sand, clean and free from clay or soil of any kind. Mix this with good Portland cement in proportion of one part cement to two parts sand. Mix thoroughly when dry so the cement is evenly and thoroughly distributed with the sand, then put on a coat on the inside of the silo from one-half to an inch thick and trowel it down smooth. You will have the best kind of a finish and a silo that can not be beaten. If you don't get the surface troweled down smooth, it will pay you to go over the surface with a cement wash filling in all the small cracks. This makes a perfect silo.

COLON C. LILLIE.



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Here you are—the biggest fence bargains you ever struck. Remember, it's the famous genuine Empire fence—freight prepaid to Michigan, Ohio and Indiana points and allowed, beyond. Satisfaction absolutely guaranteed—you take no risk. Order now to save time and to make sure of these prices. Catalog free.

Wires	Inches High	Medium Weight	Extra heavy (All No. 9)
9	39	23c per rod	37c per rod
10	47	26c per rod	41c per rod
12	55	32c per rod	49c per rod

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"SAVE THE HORSE" SPAVIN CURE



CONSUMERS ICE AND COLD STORAGE CO. El Paso, Tex., May 17, 1910. Some time ago I tried it on large windpuffs; these were hard and she was too lame to drive. Used one bottle and she worked all summer on fee wagon and never showed a sign of lameness. JOHN SCHUBERT. Easton, Pa., May 23, 1910. Just purchased a bottle of A. J. Odenweller for sprained ankle. Have great faith, as I cured one ringbone of three years standing and a spavin with one bottle. L. F. HUSTED, R. D. 6, Box 20. \$5.00 a bottle, with legal written guarantee or contract. Send for copy, booklet & letters from business men & trainers on every kind of case. Permanently cures Spavin, Ringbone, Ringbone (except low), Curb, Splint, Capped Hock, Windpuff, Shoe Bole, Injured Tendons & all Lameness. No scar or loss of hair. Horseworks as usual. Dealers or Exp. paid. TROY CHEMICAL CO., 20 Commercial Ave., Birmingham, Ala.

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LIVE STOCK

THE WEANLING COLT.

One of the most important things in horse raising is the care of the colt during its first year. During this first year it can get a start in growth and thrift that will give it a good start toward becoming a profitable drafter. On the other hand, it can be stunted in growth and its progress so interfered with that it never will attain its possible size. It all depends on its care and feed.

Just now the matter of weaning the colt, or colts, comes up. It is a problem to get the colt to grow on the feed that its mother and the older horses are eating and to do without its baby milk. To make the change without interfering with the growth of the colt, requires very careful care and attention. Also the colt must be weaned from the company of its mother as well as from the food she has been furnishing it.

If the colt has been left in the stable, as it should have been, while the mare has been worked, little trouble will be met with on this latter point. Colts that have been following their mothers in the field or pasture will need attention in this regard. They should have a good roomy box stall. The stall should be high enough to prevent them from jumping out. If there are several colts they should be placed together in one big roomy stall. They will be company for each other and will be much more quiet than if left alone. When there are no other colts it is a good plan to let the little fellow have one of the quiet older horses with him.

The weaning should be gradual. Sudden changes in feed are detrimental to stock of all ages. Much the more so with young stock when the change is so great as changing from milk to solid feed. The colt should be accustomed to eat oats before weaning time comes. There is no feed that will so nearly take the place of milk as good, bright oats. Clover or alfalfa are the most appetizing and growth producing of all forage crops and the colt may well have all he will eat of either.

It is well to let the colt suckle only a couple of times per day at first. After a few days the little fellow may be cut down to once per day. Then, after a week or so if all is going well the mother may be kept away entirely.

One common mistake is in cutting off exercise. When we spoke of the big, roomy box stall it was not meant that the colt should be kept in even such a good place all day and every day. The colt needs exercise to keep it healthy and vigorous and to keep it growing. Pasture is usually good at this season. The colts should by all means have the run of a grass pasture lot. It is well to see that the fence is in good repair before turning in colts that are being weaned. They are very likely to try to break out and there is serious danger of injuring themselves in trying to do so. A high woven wire or board fence is always best but every farmer must make the best of what he has. If his fences are neither woven wire nor board, what he has should be put into the best condition possible. A bad injury at this time will usually mean a blemish for life.

During the winter following the weaning the colt does not need pampering and hothouse care. It will make a more rugged and a better horse if it has a reasonable amount of open air and exercise. The old shed, with three good sides and roof and the south side open, is still a very satisfactory winter shed for young horses and colts. Very few days will be so bad that they will not be out in the lot playing or out in the field roaming about. This is just what the youngsters need.

Since growth is the one thing above all others that is sought in feeding the colt it is very necessary to feed growth producing feeds. It is very safe to draw a comparison with other stock in the case of feeding. Not a man who raises hogs will contend that corn is a producer of bone and muscle. They say that it makes the animal fat and sleek but does not produce growth. The very same thing happens when corn is fed to colts. Oats, clover, and alfalfa are the bone and muscle producers which can be raised on every farm. Corn stover will add variety and make the ration very much cheaper. Other feeds will do very well but it must not be forgotten that the feed must be such as will produce growth.

Iowa.

H. E. MCCARTNEY.

FEEDERS' PROBLEMS.

Wheat as a Feed for Hogs.

Is it better to sell wheat at present prices or have it ground as feed for hogs? Is there any other grain which could profitably be combined with the wheat? What is the proper ratio of protein, carbohydrates and fat in the well balanced ration for growing pigs?

Hillsdale Co.

D. L. M.

It will not pay to feed marketable wheat to hogs, either alone or combined with other feeds at present prices. Repeated experiments have shown that wheat is of practically the same value as corn meal for pig feeding. This being the case the question of the relative price of these two grains is the only factor which it will pay to consider. Of course, the addition of a little wheat to the ration might make it more palatable and thus a little more valuable. Experiments have shown this to be the case, a summary of four trials indicating that 485 lbs. of feed made of half corn meal and half ground wheat were required to make 100 lbs. of gain as compared with 500 lbs. of ground wheat where this feed was used alone. Growing pigs require a ration with a narrow nutritive ratio when young and the ration may be gradually widened as they increase in age and size. For the younger pigs the ration should have a nutritive ratio of about 1:4, while pigs of 100 lbs. weight will do nicely on a 1:5 ration, and for hogs of 200 lbs. the ration may be profitably widened to 1:6 or even 1:7 at the finish.

Rye as a Pig Feed.

Do you think it profitable to have rye worth 63c per bu., ground to mix with skim-milk for hog feed? Or would it be better to sell rye and buy middlings at \$1.45 per cwt.?

Ottawa Co.

J. L.

There is very little difference in the relative value of corn and rye for pig feed, with the difference in favor of the corn on account of its greater palatability. The question of whether it will pay to feed the rye or not is, then, almost entirely one of the relative market price of the two grains, as is the case with wheat. It will pay to feed some middlings in the ration for young pigs at the price mentioned in this inquiry, but middlings should not be substituted for the rye in the ration. Corn would be a better feed to substitute, using from one to three pounds of skim-milk to one pound of corn in the ration. If no old corn is available it might pay to use the rye at present prices for mixing the skim-milk, although corn meal would be a much better feed for the small pigs and as soon as they get a little age they will be able to eat the corn from the cob if it is not dry enough to grind. Middlings is a well balanced feed in itself. The protein in the skim-milk is not needed to balance up this feed, but is needed to balance up the carbohydrates in corn meal. Thus, if a portion of the ration is made up of middlings and corn meal, and skim-milk is given with it, with a little sifted oat meal added, the ration will be well calculated to produce a maximum growth.

CULL BEANS FOR SHEEP AND HOGS.

I can buy cull beans here for 70c per 100 lbs. How should they be fed to best advantage to fatten sheep and hogs or what other stuff should I feed with them? I am boiling some beans for hogs and feeding with boiled vegetables. Would they be better ground?

Cheboygan Co.

J. A. McG.

It doesn't matter so very much how you feed the beans as long as you can get the stock to eat them well. Feed them in the form that they will eat them best, or that they seem to relish them most. That is the principal proposition. I am not enough acquainted personally with feeding beans to sheep to advise you. Perhaps they would be better eaten if they were ground. Perhaps they would be better eaten whole and raw. I know some people cook the beans for steers and after the steers acquire an appetite for the cooked beans they relish them very much and they have no trouble in feeding them whatever.

I am positive that for hogs the best way is to boll them as you are doing. They not only like them better but they are more easily digested. Now beans are a food rich in protein and any carbonaceous food like ground barley or corn meal, or ground rye would be an excellent food to mix with the beans. Wheat middlings does very well but it is almost too rich in protein to balance up the food and you could well afford to buy corn meal or barley. For the hogs I am confident that it will not pay you to grind the beans as they will eat them better cooked, or just as well cooked, as they would to grind them.

COLON C. LILLIE.

GIRLHOOD AND Scott's Emulsion

are linked together. The reason is that at a period when a girl's digestion is weak

Scott's Emulsion

provides her with powerful nourishment in easily digested form.

It's the food that builds and keeps up a girl's strength.

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TO DISINFECT, DEODORIZE, CLEANSE & PURIFY.

ALL OF THESE USES FULLY DESCRIBED IN OUR BOOKLETS. WRITE FOR COPIES ASK YOUR DRUGGIST FOR KRESO DIP NO. 1

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Thurmont, Md., Jan. 27, 1909. Dr. B. J. Kendall Co., Enosburg Falls, Vt. Dear Sirs:—I had a horse with Bone Spavin. It was so serious that I could hardly get her out of the stable. Used two bottles of your Spavin Cure and she is as sound as a dollar. Chas. J. Powell.

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Beats them all for Spavin, Ringbone, Curb, Splint, Swollen Joints and all Lameness. \$1 a bottle, 6 for \$5. Buy at your drug store and ask for free book, "A Treatise on the Horse," or write to—

Dr. B. J. Kendall Co., Enosburg Falls, Vt.

SAVING THE BROOD SOWS.

It is during the fall of the year that selections are generally made for the breeding stock that will produce the stock of animals that will make up the larger portion of the pork hogs that will go to market next year. The profits on the stock next year will depend, somewhat, on the character of the brood sows retained to become the mothers of the pigs, as her influence on the young animals is far-reaching, much more so than the majority of swine raisers seem to realize, judging from the slipshod manner in which the selections are made. The fact should be kept in mind that to the mother we are to look for many of the desirable characteristics we wish our feed hogs to possess.

Mistakes Usually Made.

When the prices for pork hogs are high, it is too often the case that the farmers are tempted to sell the old sows because they are heavy, can be fitted for market in a short period of time, and will bring more ready cash than the young ones will. They often argue that the young sows can be breeding while they are growing and do two kinds of work at the

than that young sow can. From a practical standpoint the pigs from a mature sow are worth more to raise and feed for market than those from an immature sow for they can consume more feed and utilize more above what is required to sustain life, thereby making them the more economical feeders.

Other points should be well considered. It has been discovered by observers and breeders that the young sows do not farrow as many pigs the first time as they will after they reach mature years. The saying of some of the old breeders that "a sow follows the path she marks out with her first litter," does not prove to be correct. And still farther, the young sows do not save as large a percentage of the pigs they farrow as do the old sows.

While planning for the next year's crop of pigs it is best to give the mature sow that has been tried and found capable of doing all that can reasonably be expected of a brood sow, due consideration before disposing of her and taking the chances with the young and untried ones. The old sow may bring a few more dollars for pork this fall, but she is also capable of producing pigs next year that will bring more dollars than the young



Grand Champion Shropshire Ewe at West Michigan Fair. A Lamb Shown by H. E. Powell, of Ionia County.

same time; produce pigs and raise them and grow meat at a profit at the same time. There are several reasons why they make a mistake, substituting the young sows for the old ones.

In the first place, the young sows can not do double duty, for the reason that their system is not capable of utilizing feed enough to enable them to grow and make rapid gains and raise pigs at the same time. If fed heavily while carrying the pigs, the life and vitality of the pigs are endangered, if not entirely destroyed. If the sow is fed to gain rapidly, there is danger of her doing so at the expense of the litter she is to farrow in the spring. While she should be well fed on a variety of feeds that will make her grow, making bone, muscles and vital organs, she should not be fed on concentrated feeds and allowed to remain quiet in order to fatten her. A distinction between feeding for growth and the production of fat, profitably, should be kept in mind.

In the second place, to breed from the young sows while growing interferes with their development and diminishes their size. It is a fact, well understood among the observing breeders of swine, that by breeding for several successive generations from immature sows, the size of the breed, as a whole, is reduced, materially, and the prolificacy of the sows of the breed is interfered with to a great extent. I have in mind a breed of swine that a half century ago was classed among the large breeds in fair premium lists, that is now classed as one of the medium breeds.

Some Things to Keep in Mind.

The mature sow that has about attained her full growth will not be required to eat only enough through the winter to maintain her body in good flesh and develop in a natural manner the pigs she is carrying. She has to do service in only one direction. As has been shown by observation and experiment, her pigs will be larger and stronger at time of birth than those from the young sow. After the pigs are farrowed, they will give more milk than the young sows, and will enable the young pigs to grow and develop faster

sow is likely to be able to do. It is like repeating an old saying that "we often plan to save a sixpence now and lose a shilling in the future." Don't be "penny wise and pound foolish."

The prices for pork meats are high, and are likely to be high for some time to come. The profits on raising pork on the farm under modern methods are large, and it is the opportunity and privilege of every man to make as much money as he can by planning to draw as much his way as possible. If the mature sows can and are likely to bring the most money during the coming year, give her a chance by saving and breeding from them.

Wayne Co.

N. A. CLAPP.

LIVE STOCK NOTES.

The wide-spread demand for feeding cattle this season has been something of a surprise to many people, but it seems wholly the proper thing, as pastures have revived under ideal weather conditions, while farmers are naturally anxious to have plenty of stock to fatten on their corn. Chicago live stock commission merchants state that farmers who have not fed any cattle for several seasons have been stocking up lately, and some of them have reached the conclusion that aside from the profits expected from fattening the stock, it is necessary to do something quickly to maintain the fertility of the soil, it having been seriously injured by constant crops and no live stock. Enormous numbers of cattle of medium or light weight have gone to feeding districts, high prices having deterred intending buyers from loading up with high-grade heavy feeders. Chicago has shipped out great numbers of medium to good 700 to 900-lb. feeding steers recently, costing \$4.60@5.15 per 100 lbs., while better and heavier feeders have been purchased at \$5.20@5.50, and venturesome buyers have even paid \$5.60@6 in scattering instances. Stockers have sold at \$3.25 and upwards, with selected light stock steers selling up to \$4.50@4.75, while stock heifers were taken at \$3.25@4, according to quality.

The prospect is that the corn crop of the country will be the largest ever grown, and the corn states may be expected to take the surplus of cattle that will come from the west. Wyoming, Idaho and Montana are very short of feed, with less than half a crop of hay, and the dry farmers are in hard luck, but corn belt farmers are in good shape and prepared to do plenty of stock feeding.

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It is handled entirely distinct from the selling side. We have expert buyers who do nothing else but fill orders for feeding cattle and sheep.

They are on the market every day, and know what, when, and where to buy. They will get you better stock for less money. You don't need to come to market yourself. Thus you save railroad fare, hotel bills and loss of time.

Ask your neighbors for whom we have bought feeders. They will tell you that we have saved them money and selected the right kind of stock for profitable feeding. There's a lot in that.

Write us NOW what you want. We will fill your order RIGHT or not at all. We MUST please you. Our business depends upon it.

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Ask for our weekly "LIVE STOCK REPORT."

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Austin Manufacturing Co., Chicago

VETERINARY

CONDUCTED BY W. C. FAIR, V. S.

Advice through 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. Many queries are answered that apply to the same ailments. If this column is watched carefully you will probably find the desired information in a reply that has been made to some one else. When reply by mail is requested, it becomes private practice, and a fee of \$1.00 must accompany the letter.

Diseased Upper Molar Tooth.—I have a mare that commenced to run at the nose last spring and she has had a very offensive discharge ever since. When going into the barn in the morning, the stench is almost unbearable until I air the stable. During hot weather she discharges most. A. M., Alden, Mich.—If the discharge comes from one nostril, which I presume it does, it is doubtless the result of a diseased upper grinder tooth and will not get well until the tooth is extracted. If both nostrils discharge, she may have a diseased tooth on each side of head and if it is only a case of nasal gleet, give a teaspoonful powdered sulphate of iron at a dose in feed three times a day.

Roarer.—I bought a mare and after I got her home found her wind cut. Can she be made better even if she cannot be cured? F. J. F., Temperance, Mich.—Apply equal parts turpentine, aqua ammonia and sweet oil to throat three times a week and give 14 dr. iodide of potassium at a dose in feed or water twice a day for 30 days. If it is a bad case, it can only be relieved by a surgical operation.

Partial Paralysis.—I have a valuable filly 15 months old that is large and growthy; her hind legs seemed to grow faster than fore limbs. When going through a doorway she wabbles and when turning sharp around she frequently falls. At times I am inclined to believe she has little strength in either hind leg. Mrs. F. B.—Your filly has spinal trouble and will perhaps outgrow it. Give her 1 dr. ground nux vomica at a dose in feed two or three times a day.

Weak Stifle.—I have a three-year-old colt that sprained his stifle some nine months ago. I have blistered stifle lightly and used liniments, but he does not recover. S. B. H., Goble, Mich.—Blister stifle with cerate of cantharides every 10 days.

Chronic Lameness.—During the fall of 1907 my horse showed some lameness, caused from a puff in fetlock joint which he recovered from. In the early part of 1909 he went lame and I had him fired for spavin and during the last spring he was too lame to be used so I had him fired for ring-bone, the enlargement being caused from a calk of shoe; now he stands up more than formerly and is not (Continued on page 265).

Dunhams' Percherons

Fourth importation for 1910 arrived August 4th. Our present lot, we believe, equals or surpasses any we have heretofore collected. More horses of bone, size and first-class quality than ever. Numerous important prize winners. Write for catalogue.

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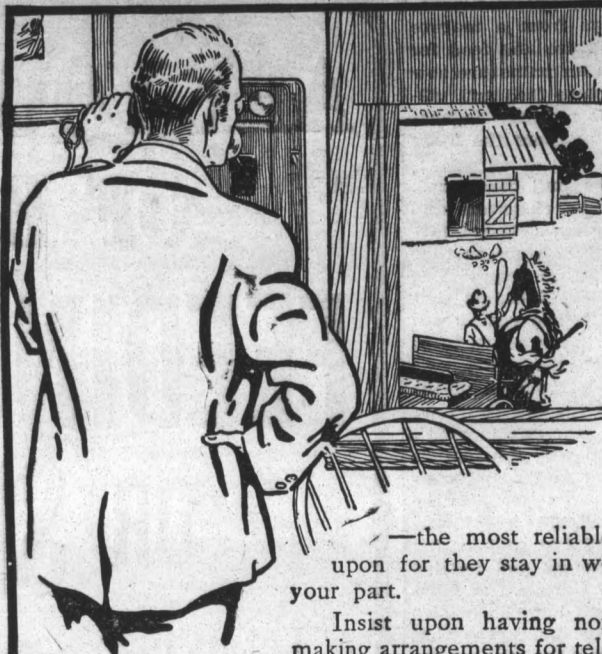
Owing to other business and residing too great a distance from the farm, and unable to give this grand herd of foundation stock my personal attention I am offering them at Public Auction. This will afford a grand opportunity to get the right kind at your own price. Sale will be held at the farm, two miles north and two miles west of Kinde, on P. M. Ry. Sale begins at 2 p. m. For Catalogue address

JOHN W. SHINE, Sault Ste. Marie, Mich.
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AUCTION SALE 200 Reg. Shropshire Sheep, 1910, 10 A. M. All my reserve flock, ewes bred to choice imported rams, flock won all first prizes Ohio State Fair, four silver medals, two silver cups, Michigan State Fair and \$19 cash prizes, one year's showing. C. H. HUTCHISON, White Pigeon, Michigan.

FOR SALE—All my blue ribbon winners, Michigan, Indiana Fairs 1910. Percherons, German Coach and Hackney Stallions. Blacks, bays and chestnuts. C. S. WILSON, Recreation Park, Kalamazoo, Mich.

TRAINED foxhounds and bound pups for hunting fox and coons. Also collies. Enclose 2-cent stamp. W. E. LECKY, Holmesville, Ohio.



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Top Notch registered young Holstein Bulls combining in themselves the blood of cows which now hold and have in the past held World's Records for milk and butter fat at fair prices.

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FOR SALE—2 yearling Holstein-Friesian bulls. W. C. Jackson, 715 Rex St., South Bend, Ind.

HEREFORDS—Both sexes and all ages for sale. Also Poland-China hogs. ALLEN BROS., Paw Paw, Mich.

Register of Merit Jerseys. Official yearly record. A fine lot of young bulls from dams with official records of 483 pounds and upwards of butter.

T. F. MARSTON, Bay City, Michigan.

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RECORDED MULE FOOTED HOGS are said to be immune from hog cholera. Stock of all ages for sale. John H. Dunlap, Williamsport, Ohio.

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either sex, with size, bone and quality. Bargains on early fall weaned pigs. I ship c. o. d. and furnish pedigree promptly. Write for prices.

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Booklet No. 76

Name Address

POULTRY

STATE FAIR POULTRY SHOW A
RECORD BREAKER.

The present excellent condition of the poultry industry generally was reflected in the splendid showing made at last week's State Fair, as well as in the unusual interest displayed by almost all classes of people. So far as numbers are concerned it was by all odds the largest show of poultry ever seen at a State Fair in Michigan. The quality in nearly all classes was all that could be asked at this season, and, best of all, most of the coops were filled with commercial poultry, the space consumed by bantams and other stock of the fancy order being unusually small.

In this respect the show differed greatly from those of previous years, as will be seen from the statement that out of a total of more than 2,000 entries over 1,500 represented stock of the practical, utility kind. Of the slightly more than 1,400 chickens shown more than 1,200 were representatives of 12 breeds which are everywhere recognized as valuable farm breeds. The strictly egg-producing breeds were slightly in the lead, the entries of Leghorns, Polish, Minorcas, Hamburgs and Houdans totaling about 550, of which number the Leghorns furnished nearly one-half. This was more than three times the number of egg producers shown last year. In fact, the number of White Leghorns shown considerably surpassed the total of all Leghorn varieties last year. The strong showing made by the Polish varieties bears out the statement made last year that this breed is rapidly becoming popular as an egg producer, the breed being represented by 125 excellent specimens, more than doubling last year's showing.

Among the general purpose breeds the Wyandottes led with more than 180 entries, followed by the Rocks with 125, the R. I. Reds with 115 and the Orpingtons with something over 100, a total of more than 500. The meat-producing section came last with about 150 entries divided among the Cochins, Brahmas and Langshans in the order named. Nearly all breeds were represented in the breeding pen classes, the number of pens totaling over 60.

The exhibits of turkeys, ducks, geese and guinea fowls were also more numerous than in previous years, while the quality and variety in these classes were fully up to the high standard which has in recent years attracted so much attention to these fowls. It is unfortunate that the unusual number of entries in all classes so taxed the capacity of the building and of those in charge as to make a careful arrangement of the fowls by breeds impossible, thus detracting somewhat from the value and attractiveness of the show.

IN ANSWER TO INQUIRIES.

Feeding Smutty Wheat.

Will the feeding of very smutty wheat to chickens be injurious to them? This wheat is so bad as to be unsalable.

Washtenaw Co. R. A. W.
A few tests have been made by some of the experiment stations to determine the effect of feeding smutted grain to cattle. The conclusion drawn from these tests is that no bad effects are apparent so long as the smut is not fed to excess, and upon these results we base the opinion that the grain you describe may be fed to your chickens in moderate quantities. However, if the wheat is badly affected with smut some of the kernels will be nothing more than shells completely filled with smut spores and the feeding of these might prove injurious, especially as some fowls are apt to get an excessive quantity of such kernels. Then, too, these kernels have little food value and if they are removed the grain can be fed much more satisfactorily. Probably the best way of removing them is to pour the grain into a vessel of water before feeding. The badly smutted kernels will come to the surface and can be skimmed off. If thought best to take no chances, or if, after feeding some of the grain in its present condition, you have reason to believe that it is injuring the fowls, the vitality of the smut spores can be destroyed by immersing the grain in water that has been heated to 133 degs. F. However, it is very probable that the removal of the most badly damaged kernels will put it in condition to be fed in safety and with profit. Running it through a fanning mill would knock off many of the

spores and blow out many of the smutted kernels, but it would also blow out some of the light and broken kernels.

Using Protein Foods.

Please tell me whether wheat affected with smut would be desirable for feeding to chickens. Will it do them any harm?

Which of the following has the largest per cent of protein: Oil meal, gluten meal and linseed meal, and what amount would you use in making a dry mash, the mash to be composed of equal parts of wheat middlings, wheat bran and corn meal?

Emmett Co.

Mrs. A. S.

The first query is covered by the answer to a similar one appearing elsewhere in this department.

The digestible protein in old process linseed meal averages about 29 per cent; that is, 100 lbs. of the meal contains about 29 lbs. of protein. The protein content of oil meal runs about the same, while in gluten meal it is somewhat higher, averaging about 33 lbs. It is assumed that you want a ration for laying hens that are not on free range and consequently are able to secure little in the way of insect life. A good dry mixture that has been fed successfully is made up as follows: Wheat bran, 2 parts by weight; cornmeal, 1 part; middlings, 1 part; gluten meal, 1 part; linseed meal, 1 part. This mixture is placed in hoppers to which the hens have constant access. In addition the hens should be given a fairly liberal allowance of whole corn—about 3 or 4 qts. for 100 hens—scattered in litter early in the morning. If more whole grain seems advisable give a little wheat or oats at noon, also in litter.

FOUNDATION STOCK FOR STRAIN DEVELOPMENT.

Whatever cross-breeding may subsequently be attempted, and however a strain may ultimately be made to approximate to particular requirements, fowls of some breed typically suitable for the purpose undoubtedly make the best foundation upon which to build.

Although strain takes precedence of breed, in the final practical results of production, strain cannot be successfully evolved from unsuitable material. Breed, therefore, enters into the question of material, but the quality of the strain depends upon its skillful handling.

Sitting varieties, of what is commonly described as the general-purpose type, are better qualified to fulfill the usual requirements, and are in general constitutionally better suited to the conditions and surroundings.

The practical advantages of keeping fowls of this type in such situations consist in their hardiness (which is a common characteristic), the fair average table qualities of the surplus stock, the general amenability of the hens to the skill of the egg-producing strain maker, and the color or tint of the eggs.

Although it has been shown that some strains of non-sitters possess considerable possibilities as winter layers, it is nevertheless the usual experience that fowls of the general-purpose type are more consistently reliable for the purpose, and are by no means profitless at other seasons, their incubating habit being of considerable advantage to the farmer. In my opinion the Wyandotte is one of the most useful fowls of this type. The whole variety is among the best for general use if the individual fowls are selected from a stock that has not been forced for competitive purposes or simply bred to an exhibition standard. Its capabilities as a layer are well known, and as a table fowl (other than one bred solely for that purpose) it possesses some advantage of size, and carries a considerable amount of good quality breast meat, combined with a smallness of bone which is desirable in any but a certain class of market production. The chickens are hardy, easy to rear, and reasonably rapid growers. Being by nature docile, they respond well to special feeding for table use and attain good weights.

The color of the white variety is no disadvantage to a country poultry keeper, the appearance of white fowls being nowhere so effective as on the fields. The brown tint of the eggs is attractive, although their size is sometimes small in comparison with the large white eggs of the non-sitters. It is, however, probable that most consumers are willing to concede something to appearance. The size may be very considerably improved by selection, just as the total production may be increased by the same method, or recourse may be had to crossing for the attainments of this object. In cross-breeding to improve the size of the eggs it is customary to use a male of a non-sitting variety.

W. R. GILBERT.

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 The Lawrence Pub. Co.,
 Detroit, Mich.

DETROIT, OCT. 1, 1910.

CURRENT COMMENT.

The Michigan State Fair for 1910 has passed into history as the best exposition of the kind ever held in Michigan, both in the number and quality of the exhibits shown. In the live stock department, which is the backbone of any agricultural fair, practically all of the improved breeds of live stock were well represented. The entries were over 30 per cent greater than last year, and the showing of some of the finest herds and flocks in the United States and Canada, as well as many of the best in Michigan, gave this department of the State Fair a representative character which it never had before, and showed to the full what the art of the breeder and the skill of the feeder can do in approaching the perfection of animal excellence. A feature of this exhibit worthy of special mention is the fact that exhibitors were required to remove the blankets from their cattle between the hours of 9:00 a. m. and 5:00 p. m. of each day to enable the patrons of the fair to study them more closely than would otherwise be possible, an opportunity which was well improved by a large number of fair patrons. In fact, there seemed to be a greater tendency than usual on the part of fair patrons to closely examine the exhibits in all departments and to gather information regarding them by the questioning of attendants and the careful reading of such facts concerning them as were afforded by placards accompanying the exhibits. In the horse department, as well as in the other live stock classes, the entries were large and of high quality. Altogether, this most important department of the State Fair was of a character to please the most critical patron and a credit to Michigan. The fruit exhibit was well up to the high standard set at previous state fairs and the show of grains and vegetables was far better than has been possible at previous fairs, since the large building formerly used as an administration building was this year utilized for the display of agricultural products. The show of farm machinery was large and attractively placed, the completed section of the new machinery building admitting of the demonstration of much of the lighter farm machinery in actual operation. The good roads demonstration, where the process of building macadam roads was demonstrated in all

its phases under the supervision of a Department of Agriculture expert was a popular feature with fair patrons who are not familiar with such work. The new automobile building afforded ample space for the placing of an attractive exhibit in this line, while the second floor of the building was devoted to the display of electrical goods with which farmers are becoming better acquainted each year. All of the other practical departments of the fair were proportionately good, making a complete and well rounded show.

The entertainment features were equally appreciated by the fair patrons, especially the aeroplanes, which made several flights, daily and which were seen for the first time by the larger proportion of those who attended the fair. The excellent music rendered from the band stand proved a delightful diversion to those who had become tired from the mere strenuous task of looking over the exhibits, and an excellent racing program was appreciated by those who are devotees of this sport. The midway presented about the usual array of "attractions," some of an instructive nature and others of questionable value, even as amusements. Perhaps the best purpose which this section of the fair served was the diversion of a portion of the crowd from the buildings which housed the exhibits, thus making more room for those interested in the fair from an educational standpoint.

The attendance was all that could be desired during the early part of the week, but was largely reduced on the last two days by the rain, which prevented the carrying out of the racing program as announced, which was a great disappointment to those who were looking forward to the automobile races on Saturday. But notwithstanding this handicap the fair was a success. It was a good fair, good in all its features except the one bad spot mentioned in our editorial comment of last week, and which we feel obligated to mention again.

Following the publication of our editorial comment in the last issue on the "Saloon at the State Fair," an indirect denial of the truth of our assertions has been made by prominent officers of the State Agricultural Society through the columns of two Detroit dailies. In one of these papers Secretary Hannon was quoted as saying that no intoxicating liquors were supposed to be sold on the grounds, and in another General Superintendent Aitken is quoted by the reporter as saying that he regretted very much that a report had been spread that liquor was being sold at the State Fair and that there was not a word of truth in the statement. He is further quoted as saying that Joseph O'Hearn leased the entire space under the bleachers and most of the space under the grandstand for the sale of soft drinks and a restaurant, the price being \$2,000, against \$6,000 paid for the bar privilege last year. The article quoted also says that Mr. Aitken stated that he sent several people to the place conducted by O'Hearn, but was unable to ascertain from any person that intoxicating liquors were being sold.

During the early days of the fair, when representatives of the Michigan Farmer noticed that a suspicious looking beverage was being freely dispensed from bottles labeled "Near Beer," an inquiry as to the nature of the beverage was at once instituted, not alone because of the fact that the officers of the society had in effect promised the large element of State Fair patrons who had protested against the running of a saloon on the fair grounds in previous years that there would be no intoxicating liquors sold at this year's fair, but as well because we had in good faith published a statement to that effect in our editorial columns. Our inquiries elicited the opinion from several persons that the bottles which were labeled "Near Beer" contained beer. But as fair officials were quoted in a Detroit daily paper as saying that no intoxicating liquors were being sold, we were unwilling to accept such evidence in the matter, although we did not have any difficulty in getting it. In order to settle the matter to our own satisfaction and to give our readers the facts, to which they were entitled after the assertions of fair officials and the publication of our editorial comment above referred to, a bottle of this "Near Beer" was purchased at the bar conducted on the fair grounds and submitted to a competent and reputable chemist for an expert opinion regarding its contents, with the result that the chemist reported it to be beer, having the same specific gravity

and containing the usual percentage of alcohol found in that fluid. To be exact his report shows that the sample contained 3.30 per cent of alcohol by weight and 4.15 per cent by volume.

In view of the vast difference between the revenue to the society as shown from the above figures which Mr. Aitken is reported as giving out as received for the "bar" privilege last year and the "soft drinks" stand this year, the usual excuse that the society needed the money would not seem to be in order this year. So far as that portion of the public whose protests were ostensibly recognized by the officers of the society are concerned, they would undoubtedly have been better satisfied with the old order of things when beer was openly sold as such, instead of being dispensed as a "soft drink" under a disguising label, since unsophisticated patrons of the fair would naturally imbibe more freely of an intoxicating beverage if sold as a soft drink than would be the case if they knew just what they were drinking, and some would be induced to quench their thirst with a soft drink who would not drink beer as a matter of principle.

The establishment of a permanent department by the chamber of commerce of a large city is certainly a new departure which serves to illustrate the general appreciation of business men that their welfare and prosperity depends not a little upon the welfare and prosperity of the farmers of the country. As a natural consequence this fact has forced itself upon the business men of eastern states, owing to the fact that the young men have been going to the city and leaving the worked out farms which have been injudiciously managed in the past, and with the result that land values have fallen and the proportion of abandoned farms has increased in the eastern states until this condition has been recognized as a menace to the prosperity of that section. After consultation with Dr. Spillman of the Bureau of Farm Management of the Department of Agriculture, the Binghamton Chamber of Commerce determined to maintain a farm bureau for the promotion of the cause of better agriculture in the section of New York in which that city is located.

This department will be recognized by the Department of Agriculture, and under the direction of the Bureau of Farm Management of that department this local bureau will conduct experiments in the section known as hill farms for demonstration purposes. An effort will also be made to interest desirable immigrants from northern Europe who desire to settle on farm lands. A farm survey of the territory will be made to disclose the problems needing special attention and the state college of agriculture as well as the state department at Albany will co-operate in the movement for the improvement of the agriculture of the section. Among other things a cow testing association will be operated for the farmers without cost for a few months to demonstrate the economic advantages of such associations. Experiments in cultivation, fertilization, etc., will also be made with various crops, especially with potatoes, and every available means will be taken to improve the interest in, as well as the agricultural practices of the section.

There is in this a valuable lesson for the farmers of those sections of the country that have not yet felt the need of such help from their city brothers. In Michigan we have no serious abandoned farm problem as yet, and our farmers are more alive to the necessity of conserving and improving soil fertility than they were a few years ago or than were the earlier farmers of the eastern states. But they are not yet making the most of their opportunities in this direction, or in the study of means to that desirable end. There is "plenty of room at the top" in agriculture as in other professions, and every farmer should strive to make his way up the ladder as rapidly as possible.

HAPPENINGS OF THE WEEK.

National.

A systematic study of infantile paralysis is being made by the New York state board of health. It has been recently declared that the disease is communicable, but the manner in which it is transmitted has not yet been discovered. A collision between a special interurban car and a local filled with passengers, out of Fort Wayne, Indiana, resulted in the death of 39 persons. The responsibility for the accident has not been placed but it is believed that the crew of the special, which was running empty,

took a chance in trying to make an extra siding before the local, which was ten minutes behind schedule, arrived. The accident resulted.

Title to the old Andersonville prison in Georgia has been transferred to the government and the property will be preserved as a land mark of the civil war. The historic burrows made by the unfortunate prisoners are included in the property.

Lightning killed seven persons during a storm, 25 miles northeast of Colorado Springs, last Thursday.

Railroad legislation in Minnesota for the past several years received a hard blow by the decision of the United States court when, in a decision last week it was declared that the reductions were confiscatory and, therefore, unconstitutional. The railroads were ordered not to comply with the requirements of the law.

President Taft and his cabinet are holding a three day session at the White House this week.

A review of the financial condition of the country by the treasury department indicates that banks have carefully provided against a financial stringency by intrenchment before the situation arrived and that there is now no indication of embarrassment in money circles. Rather the opposite promise is indicated. The crops are heavy, taken as a whole, and the balance of trade should be in favor of this country when the accounting for the fiscal year is completed. In Europe there appears to be an abundance of money which is always a good indication that the same situation will follow here.

It is affirmed by the national republican committee of the central states at a session of the committee in Chicago that there will be no discrimination made between the regulars and the insurgents in the coming congressional campaign, and that the different incumbents and candidates will be granted requests regardless of their affiliations to the progressive element, in so far as it lies in the power of the committee to comply.

James Gray, a prominent newspaper man of Minneapolis, is the nominee on the democratic ticket for governor of that state. John Lind, who had been nominated, declined the honor, and in his notification of his refusal recommended that Mr. Gray be made the candidate, which was done.

Because students at West Point showed gross disrespect for Capt. Rufus E. Lohgan by refusing to eat or speak while he was in the dining room, they were all imprisoned in the barracks, and General Barry will likely settle the matter without recourse to court martial.

The increase in imports for the past fiscal year amounts to 100,000,000 more than for the previous year. The revenues are \$30,000,000 more. The average rate of ad valorem duty is 1.66 per cent below last year.

The report of the inspector investigating the loss of the Pere Marquette car ferry in Lake Michigan, gives it as his opinion that the accident occurred as the result of someone's carelessness. The boat was in first-class condition, and it is only by some blunder that it could have sunk in a sea like that prevailing when the mishap took place. Whatever that blunder or carelessness was, will never be known.

Foreign.

King George, of England, will consent to the Prince of Wales taking a naval cruise, subject to the regular discipline of the department. In the long cruise the prince will make no official visits.

With hopes of benefiting their position by sympathy from this side of the Atlantic, several Irish orators are now here to inform the American people and Canadians of the situation between Ireland and the British parliament. That the visitors will secure listeners is almost assured when the list is seen, for it contains the leading Irish platform orators of the decade.

An attempt to assassinate the Mikado of Japan was frustrated last week, and the would-be assassins were arrested. It is expected that the prisoners will be tried in a secret court.

The German socialistic congress in session at Makenburg is, according to reports, not a harmonious gathering as the delegates from south Germany are charging the representatives of the north that political intrigue is being used to further the political advantages of the latter and if a compromise is not reached the 1911 elections will not indicate the real growth of the socialistic party.

It is feared that Georges Chavez, the brave Peruvian aviator who nearly succeeded in crossing the Alps, may die of injuries sustained when trying to land after an accident to his machine.

CROP AND MARKET NOTES.

Osceola Co., Sept. 19.—Good growing weather the last four or five weeks; several heavy rains which have started up the old meadows and pastures. The best pasture now we have had for several years at this season, which will help out the winter's supply of feed. Threshing about completed and fair yields being reported. Wheat is of fine quality. Rye not so good, and oats on sand a light yield but on heavy soil a good crop. Corn is good where a good stand was secured. Considerable has been cut and remainder will be out of danger of frost in a week. No frost yet to do any particular damage. The pickle crop is not doing as well as expected—too cool and wet. Late potatoes looking well and a fair crop is looked for. Some digging done and a fair crop reported; a few have rotted on low ground where water stood over them after a heavy rain, but the loss will not be very heavy. A few potatoes have been marketed at 40c per bu. Some wheat and rye seeding done; more wheat sown this fall than a year ago. Much reseeded of clover and timothy. Cattle are looking well now after having better pasture. (Continued on page 265).

Magazine Section

LITERATURE
POETRY
HISTORY and
INFORMATION

MICHIGAN FARMER
AND *LIVE STOCK* JOURNAL
PUBLISHED WEEKLY.
ESTABLISHED 1843.

The FARM BOY
and GIRL
SCIENTIFIC and
MECHANICAL

This Magazine Section forms a part of our paper twice a month. Every article is written especially for it, and does not appear elsewhere

The Northwind's Masonry

By Chas. U. Becker.

DID you ever meet the snow line of winter—the line where the green and red, golden and brown of summer and fall end and icy whiteness begins? Did you ever watch it advancing, slowly but surely, like something creeping upon you, as the days slip by and the sun retreats southward? If you have not, you have missed one of the most enchanting sights this world affords, a sensation which you would not forget as long as you live.

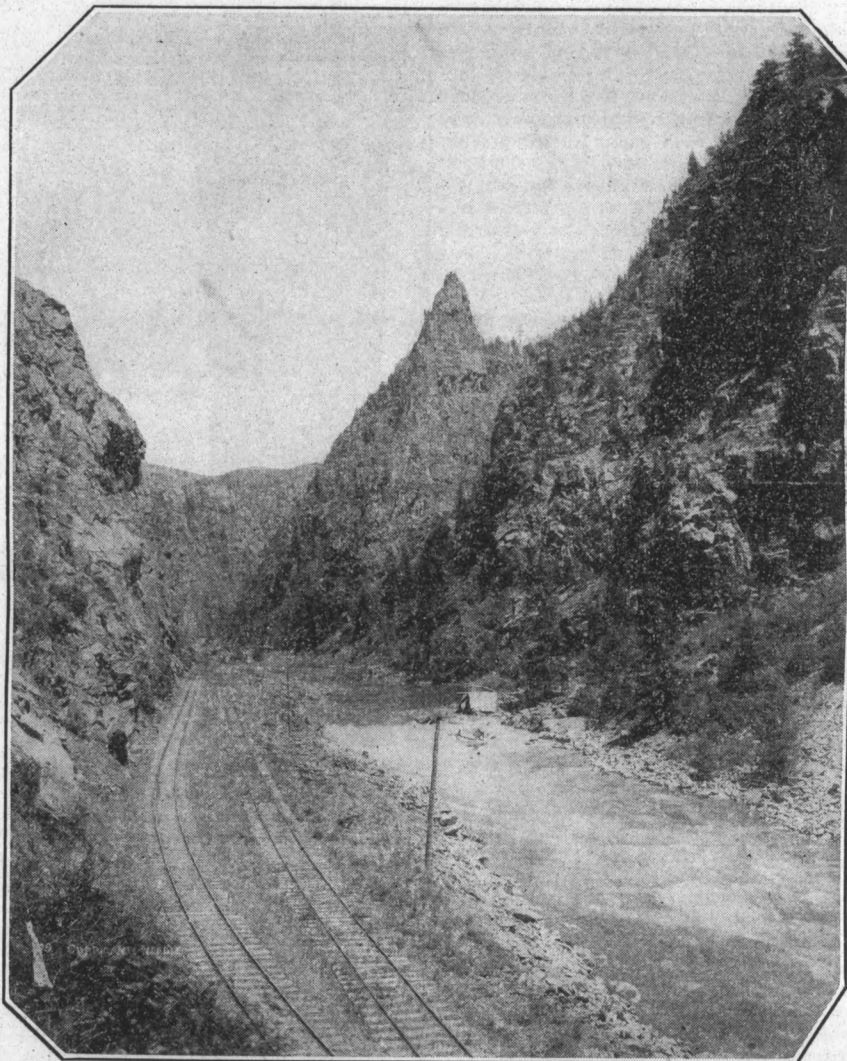
Of course, this has been denied you if you have lived all your life on the plains, in the river valleys or in the slightly hilly states of the middle west and east. It is only in mountainous countries, where the peaks pierce the clouds, that you will be able to see the majesty and splendor of winter.

There is nothing spectacular or grand about the coming of winter upon the plains—it is too sudden. You do not see it approaching from afar, and you hurry along with your business almost, unmindful of what is near you. True, you have, in a way, noticed that the brown earth has grown browner, the air colder and rawer, the storm clouds heavier, and you have put on thicker and warmer clothing; but you never realize how the snow line has been stealing upon you until you awake some morning and find the world buried in whiteness. Even when the first storm of the season comes in the daytime, there is little chance to admire its splendors. Is not this the usual way? Cloudy all morning, with an ominous stillness in the air which causes you to glance out of the window often, as you carry in another armful of wood or another hod of coal. There, what was that white object which fell between the house and the barn? A feather! Hardly! Look, the air is full! It is snow! The swirling flakes increase rapidly, and while you gaze out of the window, powerless to interfere, Winter seizes the world and gently, noiselessly tucks familiar objects beneath his white drapery.

The snow line is the line of elevation below which snow generally melts, and above which it never melts. It gradually descends from the equator—where it is about 15,000 feet above the earth—toward the poles, reaching the sea level in the neighborhood of latitude 80 degrees. In shape it is an enormous bow with the center directly beneath the sun. And as the sun moves south or north of the equator, the bow slides back and forth, dragging over the earth and sifting snow from one end and apparently scooping it up at the other. When the north end of the bow approaches us it first comes in contact with the high mountain peaks, and the tiny white hoods which they slip over their black crests are tokens that before your sight has begun the yearly struggle between the two seasons. Autumn striving valiantly to cover the retreat of Summer, and Winter pressing forward with the relentlessness of a fury until he has captured the mountain and the valley, too.

The first nipping frost in the mountains sends the tour-

ists skurrying homeward, as though something terrible was after them. Oh, about nature, but for the purpose of finding a spot where weather conditions make life pleasant. Somehow the idea seems and we travel, when we do so leisurely, to be rooted in most minds that life in



The Glow of Summer—Black Canyon of The Gunnison, Colorado.

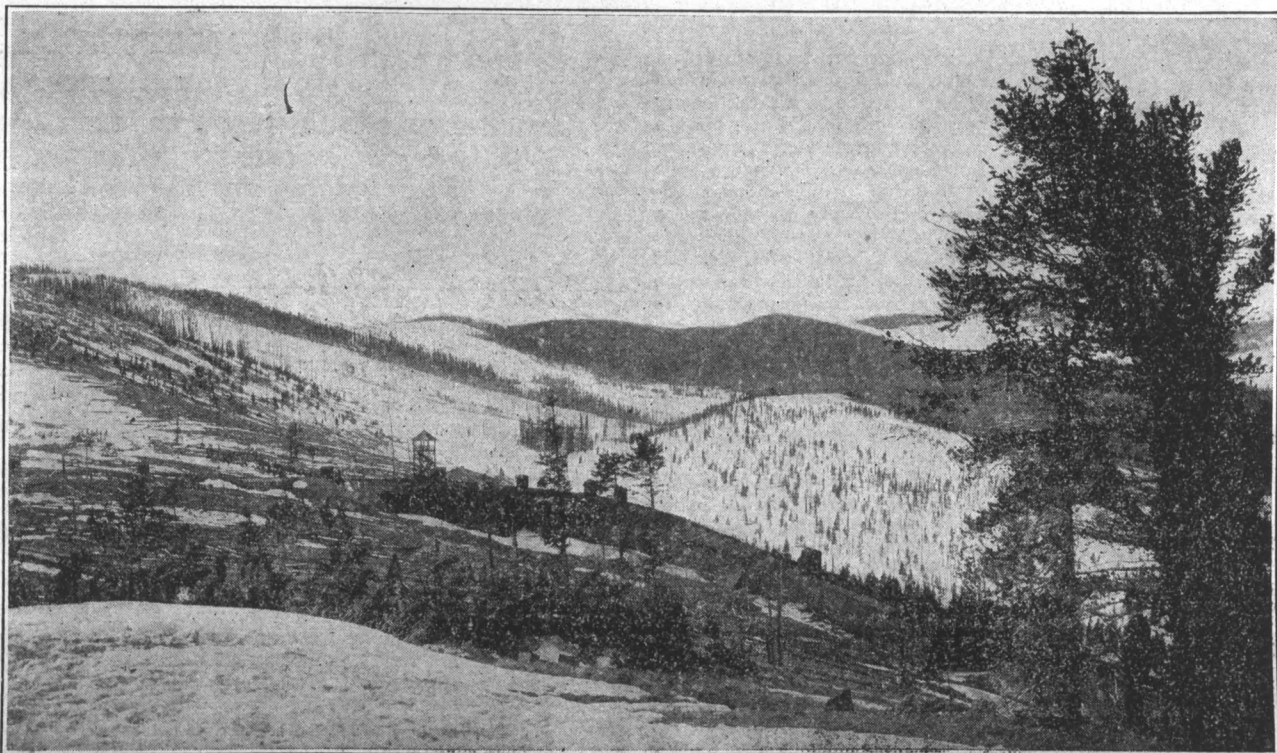
the mountains in winter is surrounded by many perils. Perhaps the fact that the tall peaks are covered with snow most of the year may be responsible for the idea, for really it would appear that the mountains were the home of Winter, that in a place from which he stubbornly refused to be dislodged by August's scorching sun he must be very severe indeed along about January of February. Then, too, being stood up before you, you see so much more of the severity of winter there than in a flat country.

Yes, the snow sometimes reaches a depth of thirty to forty feet away up in the mountains, hiding all but the very tips of the tallest pine and fir trees, but all that merely adds to the beauty of the picture, gives a certain dignity to the rugged peaks which you will never see in summer. Besides, tourists, in summer, seldom ascend to the places where the snow lies deepest in winter, and while storms may rage up among the inaccessible mountains they seldom reach down into the valleys with any degree of violence. Hence mountain storms are insignificant in comparison with the life-destroying blizzards on the treeless plains where there is nothing to shelter one from the searching winds. Although there may be no wind in the valley from which you are watching the snow flakes dropping straight down to the earth, you know that it is blowing up near the top of the peaks from the way the clouds dash against their sides, and from the way the snow, shaken down in pillars and sheets by the impact, streams slantingly over the edge of the boulders. But you are as near as any man need ever go, and it looks more terrifying than it really is.

I have seen the mountains in the glow of summer, when high lights and deep shadows prevail, and I have been among them many days and nights when the wind was roaring and howling far up the canyon and the snow was swirling around the tall peaks which had their heads hid among the clouds. And to me there is something powerfully fascinating about snow-covered mountains. Although I have had enough experience to dispel such notions, still I have always looked upon a snow-covered range with a feeling that the evil spirit of winter was luring me to hidden snowdrifts and the path of the avalanche, like the spirit of the desert

calling men to perish in the sand. And I am not the only one to experience this feeling, for I have met men who had gone into the desert for no other reason than that it had invited them, and I talked with many old mountaineers who delighted in crossing a dangerous range when the snow was deepest.

The man who rushes from the noisy city for a few days in the woods in summer does not see or hear the wonderful things taking place around him. At first he is oppressed by the profound silence and probably does not notice more than that the country is rugged or level, that the forest is green and that flowers are plentiful and brilliant. But if he remains there long enough, and commercialism has not shriveled and



The Majesty of Winter.

dried up his soul, he will discover that what he thought was silence is not silence, that the woods echo with a myriad of voices, which he will begin to hear as he would in coming out of a deep sleep, and that nature is filled with wonders that hold his attention and demand study.

And neither will a hasty visit give you an idea how strikingly Winter, day by day, writes the history of his struggle with Autumn in the mountains. True, you will return from a short trip with a few grand impressions, but you must tarry long to get at the soul of Winter, who has as many different moods as he has days. Suppose you stop in the little, deserted cabin—last summer it was the home of a party of fishermen—which you see in the clump of pine and fir trees on the bank of Ute Creek, which tumbles down from the Sangre de Christo mountains and gives its waters to the Rio Grande. To the west of the cabin Sierra Blanca, the highest mountain in Colorado, looms up black and forbidding. To the north and east, and skirting the San Luis valley to the south as far as the eye can reach, is one unbroken range. After laying in a supply of provisions at the nearest outfitting store, you feel secure and sit down to enjoy the wonderful autumn weather.

Down in the canyon the sun shines warm and pleasant, the vegetation along the creek is brilliant green, but away off up the mountain you notice red and golden colors appearing in the quaking asp thickets. Frost, the breath of winter, has touched there, and as the days pass the red and gold keep sliding down Sierra Blanca until presently the nights at the cabin begin to get uncomfortably cool. After that you keep a close watch all day long, your eyes searching the crest of the mountain for the snow line which you feel certain must soon make its appearance. Presently there is a decided change in the weather—clouds with rain in the valley—and the mountain hides its head. But when they drift away you fairly dance with joy, for it is there—the snow line—and the tips of the high peaks glisten in the sunlight.

It is a week or more before another storm further unwraps the white sheet.

Soon it reaches the timber line, and when you begin to realize that it is stealing towards you, a nameless fear creeps into your heart. You look down the canyon wistfully to where the frost has not touched the vegetation yet, and it is then that you begin to understand why the birds migrate. A desire comes over you to flee, but you put it aside. You came to meet the snow line, and meet it you will. Courage inspires you to action. In a spirit of defiance you seize an axe and chop and carry until there is a great heap of wood by the cabin door. Then when you stop to rest and admire what you have accomplished, you feel that you are ready to bid defiance to winter.

Your attention will soon be attracted to the plentifulness of game, and that is indeed cause for wonder, for when you first took up your abode in the cabin you often tramped miles and miles without seeing anything to shoot. Now—why, you no more than step out of doors than you see deer, quail, grouse or turkeys dart away to cover. What does it mean? Yes, after a while you begin to understand. The game is moving in one direction, down the mountain, away from the snow.

The snail's pace at which the snow line comes down the mountain makes you impatient and you set out to meet it. Of course you make many disappointing discoveries. From the cabin it looked like a straight line, but pshaw! it is nothing of the sort. In a gulch, where the sun's rays touch but lightly, there is a broad, white tongue lolling half way down the mountain, but out in the open you find a great tooth of brown reaching up to the timber line. Shivering, your toes and fingers aching, you hurry back to the warmth of the cabin.

There are so many things that should be attended to before winter sets in that you rush your work, and soon after you get busy you make the discovery that the snow line has started down the mountain at an alarming rate of speed. Directly above the cabin is an untimbered strip of ground a mile long. Already the snow is peeping out of the woods at the upper edge, and you go to bed feeling certain that the next storm will send it to your door. But no, you are mistaken. When you get up in the morning it is to discover that there has been a remarkable change in the weather during the night. Autumn has faced about and struck winter a staggering blow. A soft breeze has slipped up the canyon from the Rio Grande, and

the snow has crept back to the timber line, weeping, it would seem, for every gully and gulch is pouring water into Ute Creek, which has become a raging torrent. You are overjoyed at the thrashing winter has been given, and you go about whistling and singing. The game is returning.

But the next day you do not feel so cheerful, for the game has paused in its march up the mountain. There are signs of a change in the weather. Low-flying clouds pop over the range from the north every little while and disappear behind the crags down the canyon. The sun went down behind a white mist and the moon came up with a great circle around it. Along in the night you awake with a start and sit up in bed to listen. What noise was that? A wolf howling? There it is again. No, it was just a gust of wind among the pine trees, and you lie down again, but away off up the canyon you hear a steady roar like the approach of a train.

In the morning when you wake, the wind is still blowing, but it is muffled, seems far away, and you know before you peep out of the window that there is a snowdrift against the cabin door. The green and brown have taken their leave in the darkness, and the wild animals and birds are gone. The world is buried. The snow line has slipped past you while you slept and winter holds you prisoner, biting, snapping and snarling at your door through many long nights and short days until the sun comes back, leading spring.

In spring, Winter finds more than his match. Though he makes desperate efforts to hold what he wrested from autumn, he is dislodged from the valley and driven slowly up the mountain, shedding tears which flood the lowlands. Until he is routed from his foothold upon the tall peaks, he often steals down again in the night and ruthlessly destroys the tender flowers and plants which spring has brought forth in the valley. Spring brings back the wild animals, and the birds come singing to your door, and after awhile, when all is green again, the tourists return to see the lovely mountains.

But stopping in a valley at the base of a mountain and waiting for winter to drive the snow line down to you is one thing, and crossing back and forth over the ranges while winter is approaching is entirely another, presenting many wonderful sights. From a train you catch many phases of winter, owing to the constant shifting of the perspective, which you will not see from the valley. You rapidly approach and recede from conditions which were a long time reaching you at the cabin. It is a strange sight—that of a locomotive rising up to and hurling black smoke and sparks right into snow-laden clouds, pulling you into the midst of winter, and before you scarcely have had time to put on your overcoat! carrying you out again.

It was once my good fortune to be on a train which passed above the clouds during a storm. Rain had been falling in the valleys for a week before I started to cross the divide. There was the misty white line where the clouds touched the tall peaks which indicated that snow had fallen there. The passengers were moody and silent during most of the trip up, doubtless due to the damp, depressing weather. Our locomotive, grumbling as it twisted and turned in search of the line of least resistance, had climbed a little over half way up the divide when we plunged into the clouds, a thick, heavy fog. There was a stir in the car, for the sensation was new to most of the passengers. The fat drummer across the aisle awoke and the women and children began to chatter. Suddenly there came a flood of brilliant white sunlight. The train had passed above the clouds. At the apex of the divide it halted to give the astonished passengers an opportunity to get out and take a look about.

Around us, below us, above us were pictures no artist could paint—they were too grand, magnificent, sublime for any canvas to hold. We gazed out over a seemingly boundless sea of wavy, dazzling white clouds. The tall mountain peaks, whose tops were visible at imposing intervals, were covered with snow, dropped from higher clouds which had passed away before we arrived, and they sparkled in the bright sunlight and clear air. Over it all hung a dark blue sky. White, white everywhere. I had never dreamed that there was so much whiteness, so much sunlight in the world. Before that stupendous sight, talk was trifling, and we said nothing. In that great light, my faults, my littleness, my weakness were the only shadows I could see.



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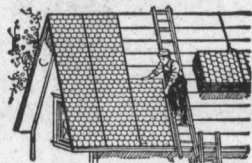
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THREE LITTLE FRIENDS.

BY L. M. THORNTON.

Three little friends, good friends are we,
Whether the day be dark or fair,
Many a merry game we see
And many a frolic share.
Each of us ready to run a race,
Swim in the brook or ride to mill,
Father says, we're the pride of the place
Shepherd Rover, and Jack and Jill.

Three little friends, good friends are we,
Off in the morning, ere the sun is up,
Out in the orchard, over the lea,
Home to mother to sleep and sup.
Growing stronger as days go by,
Never to be cross or ill,
Life's a pleasure you may be sure
To Shepherd Rover, and Jack and Jill.

Three little friends, good friends are we,
And never a hurt nor harm can fall
On one but the others are bound to see
And come post haste at the faintest call.



So here's a hope that the years be kind
To each of us, bringing more good than ill,
These three little comrades at work or play,
Shepherd Rover, and Jack and Jill.

AN INTERESTING FIND.

BY ISAAC NOTES.

Some years ago my father opened up a new farm in one of the southwestern states and planted a young orchard of peach and apple trees. The year the trees began to bloom, honey bees filled the orchard, as the country was thinly settled, and this was the only orchard for miles around. My father and older brothers believed that there were bee trees near by in the surrounding forest, and they began putting out baits for the bees in order to follow them to their homes.

This bait was simply sugar and water mixed in a shallow vessel, placed in an

home in some forest tree. If the tree were near by they would fly lower, and there would be more bees going in that direction.

Father soon got several "lines" on bees going toward the forest. Taking the direction in which most of them were going, he moved the bait a short distance every day or two in that direction, waiting each time until the bees found the new location of the vessel. After getting out of the orchard into the forest it was very difficult to follow them, for the bees in leaving the vessel would rise beyond the tree tops before taking the direction to their homes, and it took a fine eyesight to follow them. We tried all the spring and summer to find bee trees in this way, and found only one, a monster post oak a half mile from the orchard.

It was my habit while in the woods to watch for bee trees, and I was often in the woods, either hunting or fishing, gathering berries, or going to and from some distant neighbor boy's home along a bridle path under the giant trees. I watched every knot hole so much to see if I could discover bees going to and from it that I always had a crick in my neck. Though I kept this up for years, more or less, I never found a bee tree in this way, though I was well versed in wood craft and forest lore for a boy of my age, and knew more about God's strange wild creatures than many a grown man.

The bees generally find some hole high up in a tree with a hollow above the hole. They build their comb into the hollow and crevices of the tree and store their honey there above where they enter, for the little fellows are very wise in their way and always guard against building in a tree where the water is likely to run in on their store of honey.

While I never found a bee tree when I was looking for it, I did find one once when I was not looking for it, and where I least expected to find one. The edge of the thick woods came up to our house on the north side, alongside the orchard, while on the south and west sides the fields extended back a half mile or more. It was one warm Sunday afternoon in early August that I took my book and went out into the woods about three hundred yards from the house alongside the orchard. I was thinking of nothing in the world except my book—certainly not about bees. I left the main path and pushed off through the hickory, post oak and sumac bushes, which latter were decked in their gorgeous crimson leaves and still more crimson berries. I was making for a place where I had never been before, where I thought the shade was dense and the grass thick and green under the trees. I pushed through the bushes, heedless of everything but to find an inviting shade where I could cast



A Grand Traverse County Lad Who Enjoys Playing "Pioneer."

open space in the orchard and left there until the bees were attracted to it in large numbers, where they would come to load up with it in preference to the sweets from the blossoms, because it was easier to get. They carried it home in such quantities that they overloaded themselves and had to fly slowly, so it was easier to follow them.

This bait pan was soon covered with bees. There was a continual stream of the little workers going to and from it towards the forest in different directions. When they got as much of the sweetened water as they could carry they would rise, circling up from the vessel almost out of sight, and then go straight to their

myself down to the enjoyment of my book.

About one hundred yards from the road was a medium-sized post oak standing somewhat alone, with no underbrush near it. Here I found plenty of green grass and leaves to make the ground soft and clean and I threw myself down contentedly.

The instant I stopped I was astonished to hear a very strange buzzing almost within reach of me, it seemed. It was toward the tree, and about two feet from the ground. Then I saw a thick brown mass of bees clinging to and covering one whole side of the tree near a hole, while a stream of bees went into the hole and another stream came out. A small cloud

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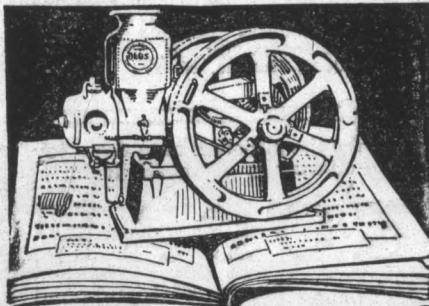
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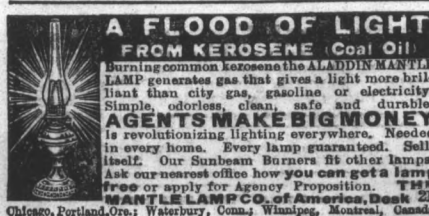
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of them was buzzing around the tree, and wings of those clinging to the tree were buzzing also, all making a noise the strangest I had ever heard. Some of the bees were not more than three feet from me. They were harmless, however, as honey bees, even wild ones, very rarely sting, and then only after great provocation. I was thunderstruck at what I saw, for whoever heard of a bee tree where the bees entered through a hole almost at the ground? Yet here they were, and I had, by the merest chance, stumbled upon what I had been looking for so long.

I snatched up my book, ran to the house and told my father and an older brother of what I had found. They were as surprised as myself, and could scarcely believe it until I took them to see it for themselves.

Did you ever help cut down a bee tree, gather the honey, and try to hive the bees and take them home to add to your domestic hives? It is easy to cut down the tree and get the honey, but not so easy to get the bees into a hive and make them stay there. After the tree is cut down and the bees despoiled of their honey they are more apt to fly away and find another tree, instead of allowing themselves to be housed in a hive which man has made, no matter how cozy it may seem to us, or how much nicer than living in a tree.

One hazy afternoon in late August my two older brothers and myself took our axes and went to cut down this tree. We carried plenty of white rags to smoke the bees when they began to swarm, and to brush them off the honey when we got into it. We also took the precaution to tie strings around our wrists and ankles, so the bees could not crawl up our arms and legs. Handkerchiefs were tied around our necks and over our heads to keep the bees from getting tangled in our hair and stinging us. Bees are generally harmless, still there is more danger of getting stung on the head, where it hurts worse than anywhere else. They say that if a boy's hair is black or red he is more apt to get stung on the head. Both my brothers had black hair, while I was a shockheaded boy with hair fiery enough to arouse the anger of the most peaceable bee that ever flew.

Only two could cut on the tree at a time, one on each side, and, as I was the youngest, my brothers did the cutting, while I busied myself keeping the rags burning near the tree to make as much smoke as possible. The bees buzzed around threateningly, but in the main stuck close to the body of the tree and in the hollow. Before you get the tree down and into the honey you must be careful not to get the bees too angry. You must go about the cutting in a leisurely, matter-of-fact way, as though you scarcely noticed them about you. You must not fight or stir them up in any way. The cooler and more gentle you are the less likely you are to get stung. You must remember, too, that wild bees are not quite so docile as domestic ones. After the tree is down, the honey comb broken, and the bees have eaten some of the honey, which they will begin to do at once, there is very little danger of being stung. Still it was a delicate undertaking for us to cut this tree, for you see the bees were all around us before we reached the honey. Generally they are far up near the top, and you do not come in contact with them until the tree is felled and the honey broken into.

At last the tree was down. Fortunately, when it fell it split near the bottom and disclosed the rich, yellow honey comb. The comb broke near the center, parts of it adhering to each side of the tree as it split. We were now practically safe. The bees which had been lighting on our clothes and heads now settled on the honey and began eating it. Those inside the tree when it fell did the same. We allowed them to do this, knowing they would be easier to manage afterwards. It would make them lazy and sluggish, so we would have a better chance to get them into our hive.

In a few minutes we took our rags and gently brushed them off the honey comb, smoking them up into the small crevices of the hollow. With knives we then carefully cut thirty or thirty-five pounds of honey out of the hollow and put it into tin buckets. Not once were we stung, though bees were crawling over our faces and bare hands and over our heads, giving us a creepy feeling. Gloves protected our hands until we got the tree down, but then we took them off.

We were very anxious to hive them and take them home to gather honey for us every year. My father made a very nice hive, and this we took with us. After getting all the honey, we carefully



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and gently brushed the bees off the trunk and limbs onto a white tablecloth. Turning the hive bottom up, we gently brushed and poured the bees into it. The opening of the hive was covered with a cloth while we tried to brush up more bees. If we saw a large number clinging to a limb it was only necessary to put the tablecloth under them and then strike the limb a mild blow with the axe. The bees would fall on the cloth, when they could be gently poured into the hive with the others. They could be handled thus easily, for after they had eaten their fill of honey they had no inclination to fly, but simply crawled around with buzzing wings. We brushed them onto the cloth from off the log and limbs of the tree, off our clothes and heads and the buckets of honey, put them into the hive and covered it up again with the cloth. Of course we could not get them all, as they were everywhere, but it seemed to me we must have put a half bushel of bees into that hive.

Then we went home with our spoils. We set the hive carefully in a favorable place in the back yard near the edge of the orchard, and after they got settled we opened the holes so they could get air and come out.

The bees that were left in the woods gathered together in a little wad on the limb of a nearby tree and stayed there for several days, but they were gone before long, and we never knew what became of them.

LEAVING HOME.

BY L. L. DEBRA.

Past verdant groves, o'er silvery streams,
Through fields of waving grain,
By wooded hills where Luna gleams,
Speeds on the midnight train.
And through the night's long, dreary hours,
Whilst wooing Morpheus' spell,
Thus sighed car wheel on clicking steel
"Farewell, old home, farewell."

Without, the world has gone to rest
Neath heaven's jeweled dome.
Within, mine eyes no sleep caressed,
As on we sped from home.
And e'en when day dawned, chill and gray,
O'er forest, stream, and dell,
Still sighed that wheel on clicking steel
"Farewell, sweet friends, farewell."

And through the day, the changing scenes
And faces, strange and new,
Were ever dimmed by memories dear
Of friendships warm and true.
For rumbling train and whistle's shriek,
And engine's clanging bell,
Joined in the wail of sounding rail
"Farewell, old home, farewell."

L'ENVOI.

Farewell, farewell. With aching heart
I bid you all farewell.
Like ships at sea, we meet, and then—
Farewell, farewell, farewell.

KINKS.

Kink 1.—Letter Conundrums.

1. What are the two coldest letters?
2. The two most comfortable letters?
3. What two are always rotting?
4. Which two are a written composition?
5. Which two represent grudging?
6. Which two represent showy arrangement?
7. Which two are shabby?
8. Which three are a mourning poem?

Kink II.—Our Advertisements.

Tell in which advertisements in this issue the following expressions occur, giving name of articles advertised as well as address of the advertisers:

1. "For every member of the family."
2. "Do this at our risk."
3. "Insist upon a standard make."
4. "The World's Best."
5. "You want to make more money."
6. "A few pounds once a month."
7. "Prices that talk big value."
8. "A guarantee that means something."
9. "They are all you claim for them."
10. "Simple, strong and practically indestructible."

Prizes for Straightening Kinks.—To the sender of each of the ten nearest correct answers to all of the above Kinks, we will give choice of a package of 50 postcards of general interest, a nice leather purse, or a copy of the Everyday Memorandum cook book. Where contestant or some member of his family is not a regular subscriber a year's subscription (75c) must accompany answers. Answers must not reach us later than Oct. 29, as correct solutions will be published in issue of Nov. 5. Address answers to the puzzle Department, Michigan Farmer.

Answers to Sept. 3 Kinks.

Kink I. Acrostic.—Muff, okra, tail, hatch, ermine and reader are the words, "mother" being formed by the initials, and "father" by the initials.

Kink II. Words Within Words.—1. Babe in Babel. 2. Bum in albumen. 3. Chap in chapeau. 4. Leg in delegate. 5. Agog in demagogue. 6. Mean in demeanor. 7. Rear in drearily. 8. Cat in ducat. 9. Rag in ragout. 10. Tot in paletot.

Kink III. Imps.—1. Impetus. 2. Impellent. 3. Impudent. 4. Imperil. 5. Impalpable. 6. Impassable. 7. Palimpsest. 8. Pimple. 9. Simpleton. 10. Wimple.

No Prizes Awarded.

None of the solutions to Kinks of Sept. 3 proving entirely correct, no prizes are awarded.

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THE UNION METALLIC CARTRIDGE CO., Agency, 299 Broadway, New York City

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Yours truly, Miss R. A. Card.

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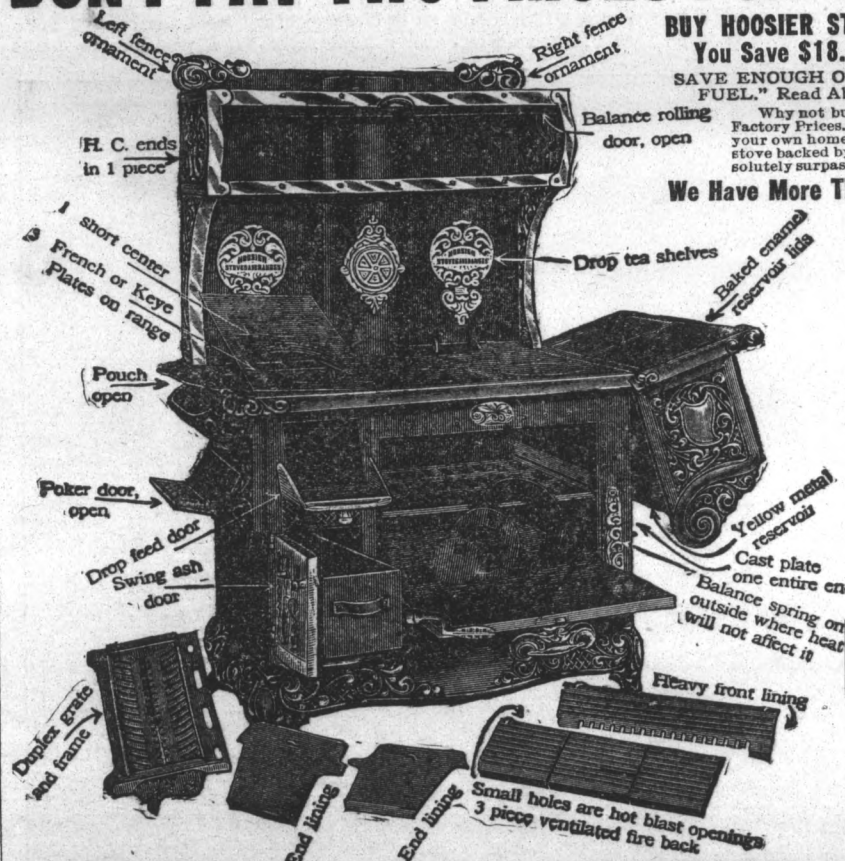
Mt. Morris, Ill. Hoosier Stove Co. Mar-iron, Ind.; Gentlemen—The Hoosier Steel and Hoosier Base Burner which I ordered from you last Fall are satisfactory in every way. Have taken plenty of time to give them a thorough test and find they are all you claim for them. Saved more than enough to buy my fuel for the winter by ordering my stoves from the Hoosier Stove Factory. Am ever ready and willing to say a good word for your Co., and will advise my friends to buy a Hoosier Stove or Range from your factory. Wishing your continued success, I am, Respectfully, Frank S. Stonebaker, R. R. No. 2.

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Our Concentration is Worse than Work— Let Go a Bit and Take a Rest.

I Wonder how many women there are in Michigan who are "just tired?" Tired, tired, tired. Tired of everything. Tired of work; tired of their homes; tired of their families, though they daren't say that last out loud. Tired of the clothes they wear, of the dishes they wash three times a day, of the meals they get, the sweepings they do, of the holes they mend, of the buttons they sew on; even of the neighbors who are kind and friendly; tired and sick of life itself. I am afraid there are many such women. Not so many, perhaps, as of the rested and restful kind, but at least a great many more wornout women than there should be.

Well, there is but one cure for such a state of things, and that is rest. And now I can hear the chorus of protest from these tired women. "We have no time to rest. What would become of things if we stopped?"

It will be a great blow to your vanity, perhaps, but let me tell you things would go on without you, if you stopped, and I haven't a doubt the work would be done better than you are doing it. For no fagged woman ever works well.

It is a great mistake made by women, and especially by housekeepers, to get to thinking they are absolutely essential to the scheme of things. Bless your heart, no one is ever necessary. No one is so indispensable that the world and its work would not go on just as well without her as with her. If you don't believe it, try it and see.

I used to think just the way you other housekeepers think, that I must keep on or everything would stop. I kept on until I had to stop with nervous prostration and things moved along just beautifully without me. Indeed, if my departure was noticed at all it was with a sigh of relief that such a fussy, nervous, cross individual had been banished and the rest of the family could be comfortable.

Since then I have noticed in other families where the mother has thought herself indispensable, that if she once took to her bed, or went on a visit or even died, those who were left got along without her. It seems pathetic, but many a family bereft of the mother, seems to brighten up visibly as soon as the mother is laid away, and the work gets done just the same without her.

So you who are tired out, ruminate on this. Then take a rest. If you really can not afford to go away, then rest at home. Rest between tasks, if you will not rest any other way. Don't keep on going so long as you see anything to do, but when you have washed the breakfast dishes, sit down five minutes before you sweep the floor. Take five-minute rests every hour. Of course, it makes the work seem to go slowly, but you really work faster for the little rests.

Take a lesson from a small boy who once went to school to me. He had mastered one lesson, and sat with the flush of victory on his face, taking breath before starting another. In those days my hobby was to keep busy every minute, so when I saw him doing nothing I said, of course with a view to starting him immediately to work:

"John, what are you doing?"

"Restin'," said John, calmly and peacefully, while the other children tittered.

Then I thought the simple act of resting between tasks a thing to be shunned. Now I see that John was wiser than I was. One thing done, he stopped to gather his forces together before starting at another thing. Thus he accomplished his work without visible effort and with no waste of nerve force.

Boys and men work that way naturally. Girls and women must learn to work so, too. Every feminine creature has a way

of jumping into things head over heels and working feverishly from morning until night as though her soul's salvation depended upon getting a certain amount of work done in a given length of time. She finishes one bit of work with a bang,

and without pausing for breath plunges madly at the next, using as much nervous energy in a day as she should expend in a year.

It is this over-concentration that tires women out, not the amount of work they do. Any healthy woman ought to do the work of the home without becoming exhausted. If she can't, it is because she works wrongly, works without applying judgment, thought and common sense to the business of her life. DEBORAH.

Country Women As Money Earners—No. 14. Possibilities in Thoroughbred Poultry.

By Ida Newland Cole.

THERE is one branch of the poultry business that has for some reason been left almost entirely to the large poultry farmers. That is, the keeping of thoroughbred poultry, for the purpose of selling eggs and fowls for breeding. As this is a much more profitable business than supplying the grocermen and chicken buyers, I see no reason why the farmer's wife or daughter should not avail herself of the opportunity to engage in this line of work. Perhaps one would need to give more attention to the details of the business, and would have to be more careful, but the real work of caring for, and raising them, would be no greater than the old-time ways of poultry keeping; and one does not have to depend upon the home markets, while the income would be much larger.

It is best to start with a breed that is not too common. Perhaps the experience of a member of my own family who last year started in this business, may give a better idea of the work than any theory which may be advanced.

He started in last fall with a pen consisting of one male and four females of the Black Leghorn variety.

One hen had scored 92 at a nearby poultry show, and was a year old, while the rest were from spring hatches. Since the close of the breeding season he sold the old hen and one of the others, each for what he paid for the first.

The house he built himself with material procured from an old torn down shed. The roof slants to the south and is covered with roofing paper, while the inside is lined with tarred paper. It has an en-

trance door on the east side, a large doorway is left on the south, covered with poultry netting, with a muslin drop curtain on the inside, which is let down only winter nights and bad, stormy days.

There is also a small park on the south side enclosed with poultry netting, and a small drop door which leads from the coop to the park.

The floor of the coop is fitted with roosts and a droppings board. Box nests are nailed to the side, and a home-made self-feeder, which always contains ground feed on one side and oyster shells on the other, is placed where they can help themselves at all times. They also have a variety of grains and other feed twice a day, scattered through the litter on the ground floor. This is the home of the Black Leghorns through the winter and spring until the breeding season is over. After this they are allowed the run of the farm with the other fowls until winter again sets in.

From the four hens since the middle of March he has sold 13 dozen eggs; one brood of day-old chicks, and raised about 60 chicks for himself, beside the eggs that didn't hatch and the baby chicks that died from one cause and another. But he had very good luck with the hatches, two litters hatching 14 out of 15 eggs each. He had no incubator or brooder, but used Plymouth Rock mothers, as the Black Leghorns are non-sitters. He also had two sittings that were shipped him, making about 75 chicks in the whole flock. From the latter he will choose the male birds to breed from the coming year.

He now feels in a position to make

something more than expenses. Of course, this means plenty of advertising in poultry journals, etc. There is the matter of shipping eggs and young chicks that require a great deal of care. Each egg has to be wrapped separately in batting and packed carefully in excelsior or a similar packing, and marked "to be handled with care." There is a great deal to be learned about the business, and much that can only be acquired by experience, but if one has a liking for the work it is a fascinating and healthful employment and one that is remunerative.

A late poultry journal gives an instance of one man having a pen of five fowls, of a not uncommon breed, but of pure stock, who sold a sitting of eggs for \$150 and was offered the same price for another but refused as he wanted them himself for hatching. This, of course, is an exceptional price, but the possibilities for the breeders of thoroughbred poultry are great and there seems not enough to supply the demand.

TRAINING THE BOY FOR A HUSBAND.

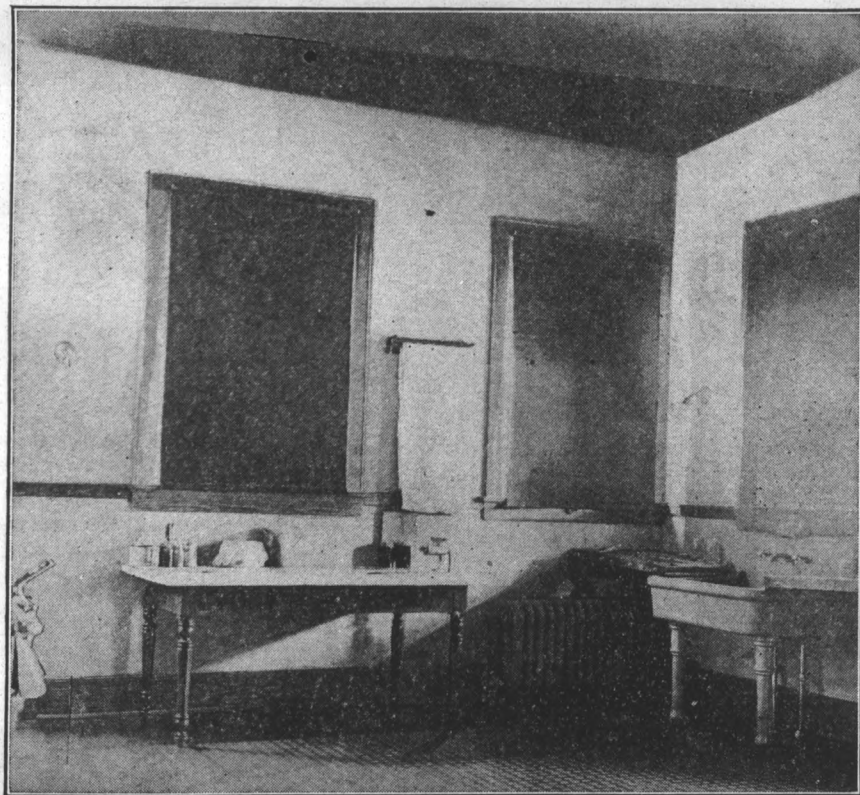
On every hand is advice galore in regard to training our girls for good wives and mothers. Why not train boys to be husbands, as it takes two to make the marriage? It seems to me that any system of preparation which develops only one side must, in a large majority of cases, result in an unbalanced condition of affairs.

So many parents are not as wise as the motherbird. They think the boy is only a boy. They forget that he will one day be a man and on him will rest the responsibility of some woman's happiness. Boys naturally look to the father for example, they need his care and discipline always and his strong manly influence to aid them in their growth. But mother, what do the boys expect of her, or rather what do they not expect of her? There are mothers whose love for their sons is so discreet and comprehensive that it reaches out and takes in the happiness of his future bride.

Girls who have been so fortunate as to win the love and devotion of a son reared by such a mother have every reason for regarding the "fearful mother-in-law" with at least toleration.

Marriage is never a failure where consideration fills the minds of both parties. It is the golden band between them which brightens with increasing years and binds them together when absent from each other. So to train our boys to be good husbands we must teach them to be considerate of the wife's feelings. They must work together and plan together. Home influence, how much it means to the boy himself, relating itself closely to the quality of his manhood, to the atmosphere of a home he shall choose for himself, to the well-being or ill-being of his wife or to the nature and training of his children. If the boy is as successful as a son, is he not apt to be as a husband? And if he is to face the world successfully he needs a little experience of the rough places in life.

When we stop to think of the footing upon which some boys stand in the household we can scarcely wonder at the increasing list of unhappy marriages, divorces, and dragged out wives. Boys there are who daily help themselves to their sister's handkerchiefs, neckties and personal belongings at their own sweet will, notwithstanding the sister's objections; who will not eat unless food is prepared to suit them, no matter how tired the mother is, what kind of husbands will they make? Other boys there are who have a way of gracefully and "cutely" slipping out of every little disagreeable task, leaving it for mother or sister to perform. So they are allowed to go through a careless, irresponsible boyhood uncontrolled. And the wife will be left to bear alone the burden of harassing, daily troubles, small in themselves, no



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a Lot
to You

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It on
Heels
of Shoes
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Satis-
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Every shoe bearing this famous trade-mark on the heel, assures its wearer the greatest dollar for dollar shoe value possible—both in style and comfort. No shoe, at any price, has more style—few shoes afford as much solid comfort and long wear. There are

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—for every member of the family—mother, father and the children. They are conscientiously made by expert workmen, of the best leathers—all leather, no substitutes.

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"Mastiff" School Shoes for boys and girls are made to withstand the kind of wear a live, healthy boy or girl will give them. With each pair of "Mastiff" Shoes sold there is a valuable coupon. Look for it in the shoes and exchange it for a valuable and useful article at your dealers.

If your dealer can not supply you, write us.

FREE

Every reader of this paper may obtain a copy of our new booklet for children—"Rambles of the Roosevelt Rabbit." There's a copy for you. Write for it today, enclosing 6 cents to cover cost of mailing, etc.

For Father, Mother, the Boys and Girls.

M. D. Wells Co.,
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The Leading Bone Cutter

Cuts fast and fine. Handles big chunks as well as little pieces. True automatic feed, no choking, cuts bone across grain.



The Easy Runner

Try it 10 Days FREE

Return if not better than any other. Made in twelve sizes, hand and power. First choice among poultrymen—the cutter that always makes good. Catalogue Free. STANDARD BONE CUTTER CO. MILFORD, MASS.

Murray New 1911 Model Buggy

Here is a genuine opportunity for quick buyers. To get full details write today for our special new 1911 circular.

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Gives four weeks road trial, insurance delivery, gives two years' guarantee, arranges construction to suit you.

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Send name on postal now to learn the many uses and advantages of this old reliable, simple, economical, efficient, durable power, over other engines of every kind. The right style and size for you at the right price.

WRITE that postal now—don't wait. It's worth while to read "The Farmer's Power." Address: James Leffel & Company, Box 26, Springfield, O.

doubt, but a mountain in the aggregate, and if she dare to murmur, "my lord" lifts his head and walks off with his hands in his pockets. I believe that, from babyhood there should be but one rule of action, one code of honor, one standard physically and morally for both sexes.

The boy in the family should have his own room, a place for the thousand and one traps so dear to a boy's heart and no infringement of his rights should be allowed. He should also be taught to recognize the same rights for others. Be taught that order is not only heaven's but home's first law and so in manhood's home he will not hang his coat on the piano or his hat on a chair, for his wife to take care of. The brother should be taught to use the same courtesy to his own sisters that he would toward other boys' sisters, and his "girl affairs" should be treated with respect, no slighting remarks be allowed.

Teach the boy to be sure of his ground for the man who imagines, thinks, guesses or presumes is no man to trust. His foundations are built on sand. Do not make life's pathway too easy for him to tread; teach him to rely upon himself; for the boy who will never violate his word and who will pledge his honor to his own hurt and change not, will have the confidence of his fellowmen. The boy who respects his mother has leadership in him. Now, these are the kind of boys who will make the model husbands.

C. S.

SHORT CUTS FOR HOUSEKEEPERS.

When washing fine handkerchiefs or laces and wanting to scald them, put them in a pillowcase and put in boiler. Also a good way to scald lace curtains; no danger of tearing taking them out of the boiler.—Mrs. I. A. S.

A tablespoonful of kerosene put in a half pail of lukewarm water when washing windows will greatly improve the looks of them and save both time and labor.—M. B. D.

When patching underwear at the elbow or knee, where it is difficult to mend smoothly, try rolling up a magazine and slipping it in garment under place to be patched, and it can be mended quickly and smoothly without fear of catching other side also.—Mrs. J. C. T.

For a physic for small babies use fresh butter without salt. Sprinkle butter with sugar. One teaspoonful or more if needed for a dose.—E. M. C.

For poison ivy or any sore that is hard to heal, take the inside bark of elderberry bush and lard; let it simmer, cool, and apply it as any other salve.—Mrs. A. K.

Equal parts of ammonia and spirits of turpentine will take paint out of clothing, no matter how dry and hard it may be. Saturate the spot two or three times, then wash out in soap-suds.—J. J. K.

Remove the stains from table linen while fresh by placing a dish of water under the spots and rubbing carefully with a small brush, then pat the wet spots dry as possible and slip a paper under to keep the pad dry. It will lighten the work on wash-day.—E. L.

Do not throw away the leaky hot water bag, but use hot salt in it instead of water. It is just as good.—E. L.

Tartar emetic, in a dish of sweetened water is the best thing I have found for getting rid of all kinds of ants. Keep two or three little dishes of it in the different cupboards and they will disappear at once.—C. R.

Nothing is prettier as a finish for garments to be worn by very small children than a row of hemstitching. The daintiest and finest of laces Hemstitching on the Machine.

These wear out very soon and lace with even a tiny hole in it is anything but pretty. Sometimes the busy mother may want a quick method of hemstitching the little garments and will be glad to know that the work can be done on that faithful friend, the sewing machine.

First draw the threads as for hemstitching with an ordinary needle. Then loosen the tension on the machine, just how much you can determine by experimenting on a scrap of cloth. Turn up your hem until the edge just touches the drawn space and then sew along its very edge, being careful that the seam is a straight one. When the hemstitching is done it is very likely there will be a few places where the hem was not well fastened and in order to give added strength tighten the stitch and hem one-eighth of an inch above the hemstitching. The result will be a dainty finish that will wear as long as the garment.

Haste and Waste

Stop and think for a moment the next time you are about to buy soda crackers.

Instead of hastily buying soda crackers that go to waste because broken, soiled or soggy, buy

Uneeda Biscuit

in separate five-cent packages. Soda crackers in large packages soon become broken, stale and unpalatable. On the other hand, Uneeda Biscuit in handy, moisture proof packages are *always* fresh, clean, crisp and whole—not one wasted.

(Never Sold in Bulk)

NATIONAL BISCUIT COMPANY

Body Made of charcoal iron, doesn't rust like steel



The Range With A Reputation

You don't want to buy a range every day, or every year, but when you do, the Great Majestic Range is worthy of your most careful consideration. It is a range with a reputation, built on honor, of the best materials, and while the first cost may be more than some others, it outwears three ordinary ranges; this, and its fuel saving, baking and water heating qualities make it the cheapest in the end.

The Majestic is the only range made entirely of malleable iron and charcoal iron. Charcoal iron won't rust like steel—Malleable iron can't break. Majestic Ranges have absolutely air tight joints like an engine boiler, because they are put together with rivets, and they stay air tight, because neither heat or cold can open them.

The Majestic is lined with pure asbestos board, 1/4 inch thick, covered with an iron grate and it's put there to stay—you can see it. This assures a steady, even, perfect baking heat and saves fully one-half your fuel.

A Perfect Baker

The Great and Grand MAJESTIC Malleable and Charcoal Iron RANGE

A Fuel Saver

The reservoir is all copper and heats like a tea kettle through a copper pocket, stamped from one piece of copper, setting against left hand lining of fire box. It boils 15 gallons of water in a very few minutes and by turning a lever the frame—and reservoir—move away from the fire. This feature is patented and is used only in the Majestic.

All doors drop down and form perfect and rigid shelves. Malleable iron oven racks slide out automatically, holding anything they contain. The open end ash pan does away with the shoveling of ashes out of ash pit. The ventilated ash pit prevents the floor from catching on fire and the ash cap catches the ashes that would otherwise fall to the floor.

No springs anywhere to weaken, or get out of order. It is the best range at any price—a range with a reputation and it should be in your kitchen. It is for sale by the best dealers in nearly every county in forty states. If you don't know who sells them in your vicinity, write us and we will send you our book, *Range Comparison*. Everyone who is thinking of buying a new range should first read this booklet. Majestic Manufacturing Co., Dept. 21 St. Louis, Mo.

It Should Be In Your Kitchen

Please mention the Michigan Farmer when you are writing to advertisers and you will do us a favor.

TWO PRECAUTIONS AGAINST DUST.

BY A. L. L.

A VERY good housewife is a foe to dust. Firstly, because long generations of dirt-chasing ancestors have given her the instinct; secondly, because dust is untidy and she would hate it anyway, and thirdly, because modern science has told her of the deadly microbes which lurk in every dust cloud.

Since I have become a housekeeper in practice as well as in theory, I have hated dust for a new reason. That is the very bad effect it has on my hands. Quite by accident I discovered one day that if I dusted a room without the precaution of first putting on a pair of old kid gloves, my fingers would be cracked and possibly bleeding by the time the room was dusted. Since then I have always kept a pair of gloves to wear while sweeping and dusting, but one day the good man, in a moment of aberration, gave a kindly and gracious permission to me to dust his desk and little book-shelf. He usually does this task himself, with a result which every woman can imagine. Without waiting for my gloves I rushed to the task, lest he change his mind before I got started. When I had finished, my hands were rough and chapped, four fingers were cracked on the ends and tiny drops of blood oozed from my knuckles.

I could scarcely believe that dust would work such havoc, so tried the experiment once more. When my hands were healed, I dusted the parlor one day without the gloves, and again had two badly chapped hands to nurse. This satisfied me that dust worked the mischief, and since then I never sweep or dust without first protecting my hands. Many housekeepers who blame laundry soap for chapped hands can really blame their habit of sweeping and dusting with bare hands. If your hands are at all sensitive, never so much as pick up a dust cloth without first putting on gloves. Extreme cold will affect your hands the same way, and you should never go out in cold weather without first making sure that your hands will be warm and comfortable until you return.

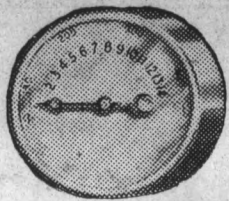
Besides protecting your hands when you sweep, do you take the wise precaution of protecting your lungs and respiratory organs by protecting your nostrils? If you do not a careful examination of your nostrils with only a hand mirror after you sweep should convince you of the necessity for this. The membrane on the inside of the nostrils will be black with dust, a sure indication of the condition of the air passages. To guard against this, get a small silk, or surgeon's sponge; disinfect it by washing it in good white soap-suds into which has been dropped a little carbolic acid; sew an elastic on it, just long enough to fit snugly around your head, and before you sweep moisten this sponge and slip it over your nostrils. It will catch the dust which otherwise would be drawn into the nose and lungs.

If you will not take this precaution, at least cleanse the nostrils and throat well after you have finished your task. I used to do this by drawing a little warm, salt water through the nostrils from my hand, after which I would gargle my throat with salt water. A throat specialist, however, put a ban on the habit of drawing salt water from the hand. This often leads to abscess in the inner ear, making mastoid operation necessary, he declared. A bit of matter is drawn from the nose into the inner ear in the act of snuffing. It can not get out and must stay there until it decomposes and starts an abscess. Since learning this I have used a small glass nasal douche. They may be bought for 25 cents and undoubtedly save hundreds of dollars for treatments for pulmonary trouble.

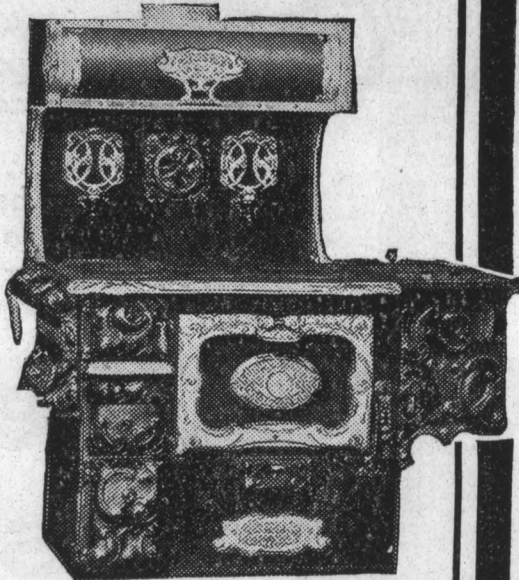
Instead of using salt water, a little peroxide of hydrogen might be used in the water.

EXTERMINATING CARPET BUGS.

Dear Editor:—Here is a recipe for the extermination of carpet bugs and its efficacy has been vouched for by those who have tried it. One oz. alum, 1 oz. chloride zinc; 3 oz. salt. Mix with one quart of water and let it stand over night in a covered vessel. In the morning pour it carefully into another vessel so that all sediment may be left behind, dilute this with two quarts of water and apply by sprinkling the edges of the carpet for a distance of a foot from the wall. This is all that is necessary, they will leave boxes, bedding and any other resort that has been sprinkled with the solution on the shortest possible notice and nothing will be injured in texture or color. L. S.



Oven Thermometer
Makes Baking
Easy and Saves
Time and Fuel
for You.

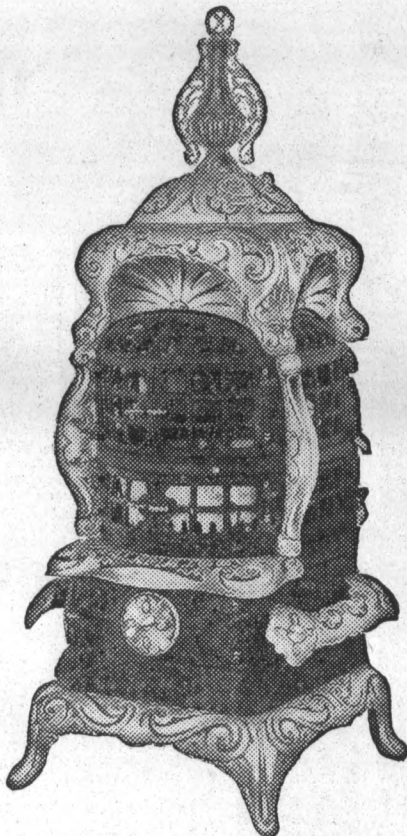


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When you buy a stove or range from the Kalamazoo Stove Company, you pay only for:

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3. And the one legitimate profit of the manufacturer.

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We want you to try in your own home, without risk or expense, our marvelous new, 100 candle power Wonder Oil Lamp, generates its own gas from common coal oil—burns on incandescent mantle. Six times cheaper than electricity or gas. 40,000 families now using. The price of this lamp is \$6.00, but to introduce it quickly, we will make one person in each locality a Special Free Offer. Remember, if you accept our offer we send the Wonder Lamp, express prepaid. We want to place one for demonstration purposes in your home and ask that you recommend it to your neighbors. Let the Wonder Lamp light your home. Simply send your name and address today.

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Learn how thousands of farmers are making extra profits by planting and selling seeds cleaned and graded by a Chatham. Taxes are too high, land too valuable to go on in the old way. Experiment Stations and Farm Papers are telling you this and all endorse the Chatham. Get my free book and liberal offer now. Address Manson Campbell, President



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Wheat Yield in Many Districts Will be from 25 to 35 Bushels Per Acre

Land sales and homestead entries increasing. No cessation in numbers going from United States. Wonderful opportunities remain for those who intend making Canada their home. New districts being opened up for settlement. Many farmers will net, this year, \$10 to \$15 per acre from their wheat crop. All the advantages of old settled countries are there. Good schools, churches, splendid markets, excellent railway facilities. See the grain exhibits at the different State and some of the County fairs. Letters similar to the following are received every day, testifying to satisfactory conditions; other districts are as favorably spoken of:

Takes His Brother-in-Law's Word for It

Taylor's Falls, Minn., August 7, 1910.
I shall go to Camrose this fall with my cattle and household goods. I got a poor crop here this year, and my brother-in-law, Axel Nordstrom, in Camrose, wants me to come there. He formerly lived in Wilton, North Dakota. I am going to buy or take a homestead when I get there, but I do not want to travel two times there, for I take my brother-in-law's word about the country, and want to get your low rate.

Yours truly, PETER A. NELSON.

Wants to Return to Canada

Vesta, Minn., July 24, 1910.
I went to Canada nine years ago and took up a quarter section of railroad land and a homestead, but my boys have never taken up any land yet. I still hold the railroad land. I had to come back to the states on account of my health. Please let me know at once if I can get the cheap rates to Ponoka, Alberta.

Yours truly, GEORGE PASKIEWITZ.

They Sent for Their Son

Maldstone, Sask., Canada, August 5, 1910.
My parents came here from Cedar Falls, Iowa, four years ago and were so well pleased with this country they sent for their son, Alonzo, to come. I have taken up a homestead near them, and am perfectly satisfied to stop here.

LEONARD DOUGLAS.

Send for literature and ask the local Canadian Government Agents for Excursion Rates, best districts in which to locate, and when to go. Address

M. V. McInnes
176 Jefferson Ave., Detroit, Mich.
C. A. Laurier, Marquette, Mich.

Old Honesty \$300 Blankets



One will outwear two of the best \$2.50 blankets. Registered Guarantee Tag on each makes you safe in buying. Strongest brown tent canvas, warm lined. Of your dealer or write us. Booklet free.

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Increase Stock Profits

Mix cut roots with dry feed—double its value, keep stock healthy, and they pay a bigger profit on less feed. Roots increase relish and digestion. And the

Banner Root Cutter

is the only machine making the "Non-Choke Curve Cut" feed from roots, etc. Self feeding; cuts fast and easy; separates dirt from roots. Made in 7 styles and sizes. Book Free.

O. E. Thompson & Sons, Ypsilanti, Mich.

Why Pay \$25 for a 17 Jewel Watch

with Railroad movement warranted when we can sell you one for \$10, on liberal payment down, 1 year's time on balance. No papers to sign. Wilson Mercantile Co., Box 632, Detroit, Mich.

WANTED—FIREMEN AND BRAKEMEN

For all NORTH AMERICAN RAILROADS.

Experience unnecessary; age 18 to 35; no strike. Firemen \$100 monthly, brakemen \$80. Promotion to engineers, conductors. Railroad Employing Headquarters—over 500 men sent to positions monthly. State age, send stamp. RAILWAY ASSOCIATION, Department 502, 227 Monroe Street, Brooklyn, N. Y.

(Continued from page 254).

Cattle selling at 2½@3½c; hogs, dressed, 9c per lb; butter-fat, 29c; butter, 22c; eggs, 21c.

Tuscola Co., Sept. 15.—1910.—There has been plenty of rain since August 11, and with few exceptions crops are a fair yield. Potatoe tops are green as many fields were late planted. Those that were planted early are large, but few in the hill. Beans a good crop and some are harvesting. With the exception of peaches fruit is scarce.

Shiawassee Co., Sept. 19.—Weather for the past few weeks has been uniformly dry with hot days and cool nights. On low land there has been some frost, but not sufficient to kill corn and late potatoes. Farmers are busy seeding wheat and securing the bean crop. A large portion of the bean crop is still lying on the ground. A few late pieces yet unpulled. Wheat that was sown early is coming up in fine condition. A large acreage of wheat will be sown this fall. Corn is being cut. Silos are being filled. A usual acreage of rye will be sown. Late potatoes are still growing well and need the remaining part of the month to come to full maturity. New seeding is looking passably well but shows effect of the drought. Clover seed is filled well and most farmers are saving the second crop for the seed. Wheat the past season has been very smutty and farmers are awake to the vital importance of treating the seed before sowing. A few cars of lambs are being shipped in for feeding. No cattle. Hogs are not plentiful.

Lapeer Co., Sept. 19.—Threshing nearly done. Wheat and oats yielded well, rye poor. More wheat will be sown than usual. Corn and potatoes good. Not so many acres of potatoes as last year. Early corn being cut. Late Dent needs a week of good weather yet. Several new silos have been erected and filling will begin this week. Beans a good crop, mostly harvested. Pastures excellent. Not many fat cattle or hogs for sale. Hogs selling for \$8.50@8.75 per 100 lbs. Very few turkeys in this part of the country.

Sanilac Co., Sept. 19.—September so far has been an ideal bean month, with but one small shower. The bean crop at this date is about 50 per cent harvested, and will yield from 12 to 16 bushels per acre. Our first frost, which came on the night of Sept. 9, did little damage. Corn and potatoes on high land are maturing and ripening and both seem to be up with the average. Grain threshing nearly completed, oats yielding from 38 to 55 bushels per acre and wheat about 25 bushels, while rye was far below the average. All varieties of fruit scarce. Market prices are, wheat, 92c; oats, 31c; rye, 64c; hay, \$12 per ton; butter, dairy, 24c; creamery, 29c; eggs, 21c.

VETERINARY.

(Continued from page 256).

quite so lame. What shall I do for him? G. M. R., Mich.—I am inclined to believe that he suffers from bone-spavin lameness and may not have ring-bone lameness. Apply one part red iodide of mercury and four parts lard every 10 days to hock and pastern.

Whistler.—My horse had distemper and after recovering from it he was inclined to whistle when moved fast. This horse shows no symptoms of heaves or broken wind, but seems most distressed in damp weather. J. E. W., Shelby, Mich.—Apply iodine ointment to throat three times a week. Perhaps he may have nasal polypus which causes him to whistle, or the vocal cords may be paralyzed, and if so a surgical operation would possible make him well.

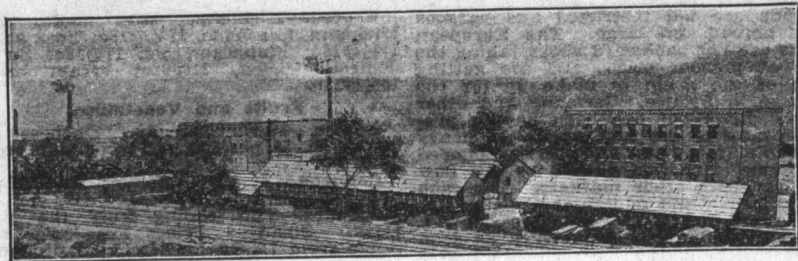
Mare Coughs.—I have a seven-year-old mare that is troubled with a cough which is worse some days than others. She seems to be in good health, does not discharge at nose and has been coughing more or less for the past five months. W. G. S., Bellair, Mich.—Dissolve 1 dr. iodide of potash in a pint of water and give two tablespoonfuls at a dose in feed three times a day. Apply one part turpentine, one part aqua ammonia and four parts sweet oil to throat once a day.

Infectious Abortion.—We have a mare that lost her three months old colt, and I am told that other mares in this locality have aborted. All the mares that have lost their colts were bred to the same stallion which served my mare. J. L., Hudsonville, Mich.—Your mare suffers from infectious abortion, the other mares that have lost their colts may have been diseased at time of service as stallions usually become diseased if allowed to mate with diseased mares. Dissolve 1 dr. permanganate potash in one gallon water and inject not less than two quarts at a time through a small rubber tube into vagina once a day for 10 days. The free use of disinfectants in the stable will assist in preventing the spread of this infection, also do not allow the horse to serve her until she is well. If the owner of the stallion is not aware of the condition of his horse he should be told what the suspicions are.

Bog-Spavin.—I have a three-year-old colt, not yet broken, which has been in pasture all summer. She has what I am told is a blood spavin on left hock. Some three months ago I had it blistered with red iodide mercury, later with a prepared and guaranteed remedy; both remedies failed to effect a cure. H. P., Saginaw, Mich.—A bog-spavin is sometimes incurable, but all cases seem to improve when blistered with one part red iodide mercury, one part powdered cantharides and eight parts lard on hock every week or ten days.

Bruised Udder.—One of my cows gives bloody milk from one quarter of udder and I would like to know how to treat her. J. H. S., Fredericktown, O.—She bruises her udder by coming in contact with obstructions when stepping over fences, out of ditches and sleeping on a hard bed. Apply one part tincture arnica and eight parts extract of witch hazel three times a day.

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Buy It—and You'll Never Need Roof Paint

When a man is under the necessity of using a lot of roofing, he is pretty sure to study the subject with great care.

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A man who has only a few hundred feet of roof will often be careless in his choice of roofing, but when it comes to thousands of square feet, (as above) Amatite is sure to be used.

The following is a typical instance:

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Dear Sirs:—We wish to inform you that the "Amatite" Roofing which we have used on our office, store house, lumber shed and barn has given most satisfactory service.

The area that these roofs cover is about 15,000 square feet. The roofing is unusually attractive in appearance, and in our judgment is the most durable and satisfactory made. The fact that it requires no painting appeals to us very strongly, and this feature makes it by far the cheapest ready roofing on the market.

CITY LUMBER & COAL COMPANY.

[Signed] F. B. Boardman, Treasurer.

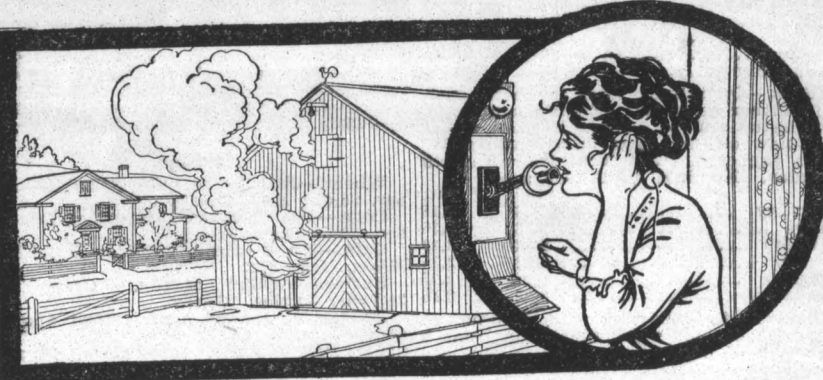
The economy of Amatite is not only in its durability and its price (lower than any other mineral surfaced ready roofing on the market), but also in the fact that it requires no painting.

You may be sure it would cost something to paint their big roofs if they used a roofing that needed painting. All that is saved with Amatite.

A sample of Amatite will be sent you for inspection free if you will send name to the nearest Barrett office at once.

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MARKETS

DETROIT WHOLESALE MARKETS.

September 28, 1910.

Grains and Seeds.

Wheat.—There does not appear to be a stagnant place in the wheat market. The primary deliveries are not so large as they were a year ago but they are active and keep the trade tolerably well supported. The transfers of grain to centers of trade are not restricted and cargoes going abroad are large. The European buyers are not backward about taking the grain at present prices and are getting much of the grain to make up for the shortage in France, Germany and other places. Liverpool has been paying premiums most of the past week; but heavy shipments from here, and Russia "clipped the plume" and her quotations are now on a par with other markets. The cash deal is strong and millers are getting liberal orders for flour. Farmers show a tendency to limit their offerings as soon as the price at the local elevators gets far below the dollar mark. One year ago the price for No. 2 red wheat was \$1.15½ per bu. Quotations for the past week are:

	No. 2 Red.	No. 1 White.	Dec.	May.
Thursday	1.00¼	.97¾	1.04½	1.09¼
Friday	1.00¼	.97¾	1.04½	1.09
Saturday	1.00	.97¾	1.03¾	1.08½
Monday	.99¾	.97	1.03¾	1.08
Tuesday	.98¾	.96	1.02	1.07
Wednesday	.99	.96¼	1.02	1.07

Corn.—Prices have slipped down during the past week in spite of the frosts which prevailed over most of the corn districts; in some sections they were heavy and others only noticeable. But most of the fields are matured and the cold can do damage only to the fodder. Michigan suffered with the other states from the cold nights. Prices on the Chicago market ruled about 12c below the prices of a year ago. The local price for No. 3 corn in 1909 was 67½c per bu. Quotations for the week are:

	No. 2 Mixed.	No. 2 Yellow.
Thursday	56	57½
Friday	56	57½
Saturday	55½	57½
Monday	55½	57
Tuesday	55	56½
Wednesday	55	56½

Oats.—Values in the oat deal did not suffer the decline made in the other leading grains, but the deal is weaker. Offerings are ample in all the leading markets. A year ago the price for No. 3 oats was 42c per bu. Quotations for the week are:

	Standard.	No. 3 White.
Thursday	37	36½
Friday	37	36½
Saturday	37	36½
Monday	37	36½
Tuesday	36¾	36¼
Wednesday	36	35½

Beans.—Quotations here for both cash and October beans are off since last week. New beans will be coming to the market from now on, and sags in quotations are to be expected. The local trade reports no sales. Nominal quotations are:

	Cash.	Oct.
Thursday	\$2.22	\$2.15
Friday	2.22	2.15
Saturday	2.22	2.13
Monday	2.22	2.15
Tuesday	2.22	2.15
Wednesday	2.22	2.15

Cloverseed.—Following the decline at the close of last week there has been a stiffening of prices until most of the loss is recovered. There is much business in the trade and dealers are getting hold of considerable seed. In many sections the yield is proving a boon to farmers as the price makes it a profitable crop even where the huller gives no more than three bushels per acre. Quotations for the week are:

	Prime Spot.	Dec.	Alsike.
Thursday	\$9.25	\$9.30	\$9.25
Friday	9.25	9.30	9.25
Saturday	9.25	9.30	9.25
Monday	9.30	9.40	9.25
Tuesday	9.40	9.50	9.25
Wednesday	9.40	9.60	9.25

Rye.—The rye market is firm and quiet. Quotation for No. 1 is 73c per bu., which is 1c above the price of a week ago.

Visible Supply of Grains.

	This week.	Last week.
Wheat	32,243,000	29,207,000
Corn	4,638,000	3,850,000
Oats	18,860,000	18,423,000
Rye	319,000	290,000
Barley	1,836,000	1,379,000

Flour, Feed, Provisions, Etc.

Flour.—The flour trade is firm at last week's figures. Millers are active and are finding a good call for flour.

Clear	\$4.60
Straight	4.80
Patent Michigan	5.10
Ordinary Patent	4.90

Hay and Straw.—Market steady. Quotations on baled hay in car lots f. o. b. Detroit are: No. 1 timothy, \$16@16.50; No. 2 timothy, \$14@15; clover, mixed, \$14@15; rye straw, \$7@7.50; wheat and oat straw, \$6.50@7 per ton.

Feed.—All kinds of feed rule steady. Carlot prices on track: Bran, \$27 per ton; coarse middlings, \$24; fine middlings, \$27; cracked corn, \$27; coarse corn meal, \$27; corn and oat chop, \$24 per ton.

Potatoes.—Market is a little easier with supply fair and demand good. In car lots Michigan potatoes are selling at 63@65c per bu.

Provisions.—Mess pork, \$23.50; family pork, \$23@24; medium clear, \$21@23; smoked hams, 15@16c; dry salted briskets, 14½c; shoulders, 12½c; picnic hams, 13c; bacon, 19@21c; lard in tierces, 13½c; kettle rendered, 14½c per lb.

Dairy and Poultry Products.

Butter.—Market is steady with last week. Supply is limited and demand normal. Extra creamery, 29½c; firsts, 28½c; dairy goods, 23c; packing stock, 22c per lb.

Eggs.—Still further improvement followed the advance of last week and eggs are now selling at 24c per dozen, case count, cases included.

Poultry.—No changes of moment have taken place in the poultry deal and prices rule on last week's basis. The movement is moderate. Spring chickens are steady at 15c; hens unchanged at 14c; turkeys are selling at 18c; geese, 12c and ducks 15c per lb.

Cheese.—Michigan, late made, 15c; Michigan, fall made, 17½@18c; York state, 17½@18c; limburger, old, 17@18c; Swiss, domestic block, 21@22c; cream brick, 16½@17c.

Fruits and Vegetables.

Apples.—Market steady. Duchess are quoted at \$3 per bbl., and common stock at \$2@3.

Cabbage.—Steady. Selling at \$2 per bbl. for new.

Peaches.—The leading fruit the past week. Steady. Prices are lower and range from 75c@2 for Michigan products.

Tomatoes.—Market steady. Generally quoted at 65@70c per bu.

Grapes.—Concords, 10-lb. baskets, 25@30c; Niagaras, 25c; Delawares, 35@40c.

Pears.—Unchanged. Bartlett's, \$1.50@1.75 per bu.

OTHER MARKETS.

Grand Rapids.

The peach season is closing early. Some of the largest growers report that they have only 75 to 100 bushels left. Prices range from \$1@2 per bu. Apples are worth 75c@1.50; grapes, \$1.25 per bu. or 18@20c per 8-lb. basket. Pears are selling at 75c@1.25. Tomatoes were cheaper Tuesday morning, selling at 60c. Owing to lateness of season it is thought that prices will not go lower than this. Potatoes are bringing 75c and are being retailed by grocers at \$1. The egg market is firm at 22½@23c. Dealers are paying the country merchants 25c for dairy butter and 29c for creamery. Farmers are getting \$17@18 per ton for hay. Dressed hogs are worth 12½c; veal, 6@12c. Live poultry, delivered, is worth the following prices: Chickens, 11½c; old roosters, 7½c; turkeys, 14c; ducks, 11½c; geese, 8½c. Grain prices are as follows: Wheat, 93c; corn, 57c; oats, 37c. Beans are quoted at \$1.90@2.

Boston.

Wool.—Recently the market has shown activity, but territory wools have enjoyed the boom, fleeces being inactive. Prices rule about steady with the past several weeks. There is foreign demand for wool on this side. The leading domestic quotations are as follows: Ohio and Pennsylvania fleeces—Delaine washed, 34c; XX, 30c; fine unmerchanted, 24@25c; ½-blood, 28@29c; ¾-blood, 28@29c; ¼-blood, 27@28c; delaine unwashed, 26@27½c. Michigan, Wisconsin and New York fleeces—Fine unwashed, 19@21c; delaine unwashed, 26@27c; ½-blood unwashed, 27@28c. Kentucky, Indiana and Missouri—¾-blood, 28@29c; ¼-blood, 27@28c.

Chicago.

Wheat.—No. 2 red, 97½@99c; December, 98½c; May, \$1.03½ per bu.
Corn.—No. 2 mixed, 52¾@53c; December, 50½c May, 53½c.
Oats.—No. 3 white, 33@34c; December, 33¾c; May, 37c.

Butter.—Market steady. Creameries, 24@28c; dairies, 23@27c.

Eggs.—All grades have gained another cent; market fairly active. Quotations are: Prime firsts, 25c; firsts, 23c; at mark, cases included, 18½@21½c per doz.

Hay and Straw.—Market steady. Quotations are: Choice timothy, \$18.50@19.50; No. 1 timothy, \$17@18; No. 2 do. and No. 1 mixed, \$15@16.50; No. 3 do. and No. 2 mixed, \$12@14.50; rye straw, \$7.50@8; oat straw, \$5.50@6; wheat straw, \$5@5.50 per ton.

Potatoes.—Prices again materially lower; market fairly steady at the lower range. Choice to fancy quoted at 70@73c per bu; fair to good, 58@65c.

New York.

Butter.—Steady; values unchanged. Creamery specials quoted at 30½c; extras, 29@29½c; thirds to firsts, 24@28c.

Eggs.—Steady at last week's higher values. Nearby eggs quoted at 36@40c fresh gathered extras, 26@27c; firsts, 24@25c per doz.

Poultry.—Market unsettled. Live. Springers, 15½@16c; fowls, 14@16c; turkeys, 12@15c. Dressed stock quoted as follows: Western broilers, 17@20c; fowls, 14½@18c; spring turkeys, 14@27c.

Toledo.

Clover Seed.—Clover seed has advanced the past week. Alsike is 10c lower. Closing quotations were: Cash, \$9.62½; October, \$9.62½; alsike, cash, \$9.30; October, \$9.25.

Elgin.

Butter.—The board reported the trade firm at 29c per lb., which is on a par with the price of last week. Sales for the week amounted to 704,700 lbs., as compared with 728,400 lbs. for the previous week.

THE LIVE STOCK MARKETS.

Buffalo.

September 26, 1910.
(Special report by Dunning & Stevens, New York Central Stock Yards, East Buffalo, N. Y.)

Receipts of stock here today as follows: Cattle, 150 cars; hogs, 16,800; sheep and lambs, 20,600; calves, 900 head. With 150 cars of cattle on our market here today, and 31,000 reported in Chi-

cago, our market opened up 10@15c lower on all steers weighing 1,200 lbs. and over, and about steady on all other grades.

We quote: Best 1,300 to 1,400-lb. steers \$7.25@7.60; good prime 1,200 to 1,300-lb. do., \$6.85@7.15; best 1,100 to 1,200-lb. shipping steers, \$6@6.50; medium butcher steers, 1,000 to 1,100 lbs., \$5.20@5.75; light butcher steers, \$4.75@5; best fat cows, \$4.75@5.25; fair to good cows, \$3.50@4.40; common to medium do., \$3@3.50; trimmers, \$2.50@3; best fat heifers, \$5.50@6; good fat heifers, \$4.25@4.75; fair to good do., \$4@4.35; stock heifers, \$4@4.25; best feeding steers, dehorned, \$5.25@5.50; medium to good do., \$4.75@5; stockers, all grades, \$4@4.25; best bulls, \$5@5.25; bologna bulls, \$3.75@4.50; light thin bulls, \$3.75@4; best milkers and springers \$70@80; good do., \$50@65; common to good do., \$35@40. A few fancy export bulls brought \$5.75.

Receipts of hogs here today, 105 double decks; market opened about steady on all grades this morning but pigs, which were 10@15c lower than Saturday's best time. Market closing 10@15c lower on Yorkers and strong on choice fancy heavies.

We quote: Choice heavy hogs, \$9@9.50; mixed and mediums, \$9.60@9.80; Yorkers, \$9.60@9.80; pigs, \$9.40@9.50; roughs, \$8.35@8.40; stags, \$6.75@7.25. Few light hogs going over unsold. Prospects only fair.

The lamb market opened up active today, with prices about 50c lower than last week; most of the best lambs selling \$7.25@7.35; closing strong, all sold. Look for shade higher prices balance of week. Handy sheep were strong today, and prospects are for about steady prices the balance of the week.

We quote: Spring lambs, \$7.30@7.35; wethers, \$4.75@5; cull sheep, \$2.50@3.50; bucks, \$2.50@3.50; yearlings, \$5.50@6; heavy ewes, \$4.25@4.35; handy ewes, \$4.25@4.60; northern Michigan lambs, \$7.25@7.35; veals, choice to extra, \$10.50@11; fair to good do., \$7.50@10; heavy calves, \$6@7.

Chicago.

September 26, 1910.

Cattle. Hogs. Sheep.
Received today 35,000 23,000 50,000
Same day last year.. 28,363 23,826 31,173
Received last week.. 67,147 73,541 181,284
Same week last year. 67,729 70,354 141,425

Cattle have been meeting with a good outlet for another week, but this was only because killers were able to load up at considerably lower prices than were current a short time ago, the liberal receipts for several weeks in succession preventing sellers from presenting a firm front. The local packers and eastern shippers have been picking up some good bargains and the coolers are carrying large stocks of cheap beef that will not be offered for sale until some weeks elapse. The spread in prices has been very wide, with steers from feeding sections going at \$4.75@5.75 for the poorer light grass-fed lots and scattering sales down to \$4.50, while the choicer class of heavy corn-fed steers sold at \$7.40@8.30. A large share of the sales took place at \$5.50@7.50, with a considerable showing up to \$7.75 and not much doing above that figure. The market has been depressed by the steadily large offerings of short-fed and grassy cattle, these coming into competition with liberal supplies of western range cattle, which are preferred to natives by killers. The middle class of native cattle have usually shown the most weakness, the best grade being offered rather sparingly most of the time, while feeders have competed for the cheapest lots of thin, light steers. Cows and heifers went at \$3.50@7, not many selling above \$5.75, and firmness was restricted to the choicer lots. Canners sold at \$2.25@2.75; cutters at \$2.80@3.45 and bulls at \$3@5. Calves sold at \$3@10, the best advancing sharply under small supplies. Western range cattle sold on a basis of \$4@7 for steers, not many going above \$5.50, while range cows and heifers sold at \$2.85@5.50. Stockers had a big sale at \$3.25@5, and feeders sold freely on a basis of \$4.75@6; with only moderate sales near the highest figures. Evidently, a great deal of feeding will be done during the coming winter.

Hogs have been marketed here and elsewhere in decreasing numbers, both as compared with recent weeks and a year ago, and it is plain that many stock feeders are not disposed to sell on a lower price basis. But the buyers have been equally determined in their efforts to hold prices down, and during the best part of last week prices were on the down grade, hogs selling under recent high quotations. Eastern shippers have not been as liberal buyers as a few weeks ago, but they purchased a good percentage of the offerings, taking the cream of the receipts, and this tended to check the decline to a certain extent. The spread in prices continued extremely wide, with the small percentage of light bacon hogs offered selling at a large premium, while extremely heavy packing sows had to go at a big discount. The dearthness of fresh and cured meats is still materially lessening their consumption, and this is necessarily an important factor in the hog market, with bacon retailing around 35c per lb. The best policy for owners of hogs to follow seems to be to market hogs that will weigh up to 225 lbs. and to hold their growing pigs until they can be marketed, as cheap corn is almost certain.

Sheep and lambs have been arriving here and at other western markets in steadily increasing volume, for the greater part hailing from the range country, and while the small proportion of fat stock sold all right, other mutton flocks had to go lower. Prime lambs, whether from farm or range, sold at good advances, and choice wethers and yearlings had a good outlet at firm prices, while feeders of the better class sold briskly at good figures. It was not possible to maintain former prices for feeding ewes and wethers, however, and even breeding ewes suffered sharp declines. As usual, the best feeder call was for lambs. The strongest factor in the market this season is the enormous demand for feeders.

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DETROIT LIVE STOCK MARKETS.

Thursday's Market.
September 28, 1910.

Receipts, 777. Market dull at last week's prices on all grades.

We quote: Best steers and heifers, \$5.50@6; steers and heifers, 1,000 to 1,200, \$5@5.50; steers and heifers, 800 to 1,000, \$4.50@5; steers and heifers that are fat, 500 to 700, \$3.75@4.25; choice fat cows, \$4.25@4.65; good fat cows, \$3.50@4; common cows, \$2.75@3.25; canners, \$2@2.50; choice heavy bulls, \$4.25; fair to good bolognas, \$3.75@4; stock bulls, \$3.25@3.50; choice feeding steers, 800 to 1,000, \$4@4.75; fair feeding steers, 800 to 1,000, \$3.75@4.25; choice stockers, 500 to 700, \$4@4.25; fair stockers, 500 to 700, \$3.50@4; stock heifers, \$3.25@3.75; milkers, large, young, medium age, \$4@5.50; common milkers, \$2.50@3.50.

Spicer & R. sold Rattkowsky 3 bulls av 690 at \$4.10, 1 heifer weighing 610 at \$4.35, 1 cow weighing 820 at \$3.25; to Bresnahan 3 cows av 1,025 at \$3; to Thompson 7 butchers av 464 at \$3.80; to Thompson Bros. 7 do av 514 at \$3.75, 1 bull weighing 1,190 at \$4, 2 cows av 940 at \$3.80; to Heinrich 10 butchers av 694 at \$4.40; to Lachait 10 do av 665 at \$4.20; to Goodwin 10 cows av 865 at \$4; to Sullivan P. Co. 3 canners av 880 at \$2.75; to Mich. B. Co. 1 steer weighing 1,050 at \$5.25, 5 do av 860 at \$5; to Beardsley Bros. 8 stockers av 473 at \$4, 2 do av 565 at \$4; to Gerish 17 butchers av 790 at \$4.50; to Rattkowsky 7 do av 730 at \$4.25; to Applebaum 7 do av 740 at \$4.25; to Marx 11 do av 800 at \$4.50; to Lachait 4 do av 887 at \$4.50.

Roe Com. Co. sold Parker, W. & Co. 32 steers av 640 at \$4.25; to Breitenbeck Bros. 31 do av 786 at \$4.55, 8 cows and bulls av 1,010 at \$3.90; to Parker, W. & Co. 15 steers av 730 at \$4.50, 2 oxen av 1,740 at \$5.25; to Kamman B. Co. 1 cow weighing 1,140 at \$4.50; to Brown 2 stockers av 550 at \$4; to Sullivan P. Co. 2 cows av 775 at \$2.65, 1 bull weighing 1,180 at \$4; to Cohen & Co. 2 do av 1,600 at \$4.75; to Rattkowsky 4 heifers av 812 at \$4.50; to Regan 1 do weighing 450 at \$3.50, 5 do av 500 at \$4; to Newton B. Co. 2 bulls av 1,000 at \$4; to Mich. B. Co. 14 steers av 903 at \$4.75.

Haley & M. sold Sullivan P. Co. 9 butchers av 846 at \$4.35, 9 do av 733 at \$4.35; to Goose 2 do av 350 at \$3.80; to Regan 2 heifers av 520 at \$4.10; to Breitenbeck Bros. 1 bull weighing 950 at \$4; to Kamman B. Co. 1 cow weighing 870 at \$4.10; to Heinrich 1 bull weighing 950 at \$3.75, 7 steers av 757 at \$4.60, 26 do av 857 at \$5; to Bray 31 feeders av 781 at \$4.40, 7 stockers av 607 at \$4.35; to Gerish 6 steers av 845 at \$6; to Kakowsky 6 butchers av 470 at \$3.90; to Kamman 8 do av 703 at \$4.25.

Bishop, B. & H. sold Regan 11 heifers av 695 at \$4.20; to Sullivan P. Co. 2 oxen av 1,675 at \$5, 7 cows av 1,053 at \$4, 3 bulls av 763 at \$3.50, 1 cow weighing 1,280 at \$4.50, 33 butchers av 756 at \$4.40; to Kamman 7 do av 720 at \$4.25, 1 cow weighing 970 at \$3.75, 7 do av 961 at \$3.40, 2 do av 1,070 at \$3; to Hammond, S. & Co. 19 cows av 889 at \$2.60; to Sullivan P. Co. 3 do av 1,010 at \$4.35, 1 bull weighing 1,000 at \$3.75; to Kamman B. Co. 13 steers av 807 at \$4.75, 1 heifer weighing 620 at \$3.50, 3 cows av 883 at \$3, 6 butchers av 800 at \$4.25, 4 do av 1,150 at \$4.50; to Sullivan P. Co. 10 do av 720 at \$4, 3 do av 793 at \$3.50, 1 cow weighing 880 at \$2.50; to Newton B. Co. 2 cows av 815 at \$4.25, 3 do av 1,000 at \$3.25, 1 do weighing 1,100 at \$4, 1 do weighing 900 at \$4.25, 2 do av 965 at \$2.75, 2 steers av 1,015 at \$4.50, 2 cows av 915 at \$4.

Kalahar sold Regan 8 butchers av 594 at \$4.25.

Lowenstein sold Mich. B. Co. 5 cows av 1,020 at \$3.75.

Receipts, 442. Market steady at last week's prices. Best, \$9.75@10; others, \$4@8.75; milch cows and springers steady.

Bishop, B. & H. sold Parker, W. & Co. 4 av 125 at \$9.50, 6 av 135 at \$9.50, 3 av 300 at \$6.50, 6 av 125 at \$9; to Sullivan P. Co. 2 av 135 at \$10, 5 av 145 at \$9.50; to Newton B. Co. 13 av 130 at \$9.75; to Goose 4 av 325 at \$5; to Parker, W. & Co. 4 av 155 at \$10, 3 av 140 at \$10, 12 av 160 at \$9.50, 12 av 140 at \$9.75, 10 av 139 at \$10; to Newton B. Co. 3 av 160 at \$10.

Duelle sold Burnstine 16 av 135 at \$9.25. Hardwell sold same 16 av 105 at \$9.25. Belheimer sold same 3 av 150 at \$9.25. Waterman sold Sullivan P. Co. 22 av 145 at \$9.60.

Roe Com. Co. sold Thompson Bros. 1 weighing 250 at \$7, 1 weighing 150 at \$9.50; to Sullivan P. Co. 5 av 150 at \$10; to Goose 2 av 125 at \$9.25; to Mich. B. Co. 3 av 160 at \$9.50, 23 av 160 at \$10, 4 av 155 at \$10; to Thompson Bros. 3 av 275 at \$7; to Mich. B. Co. 9 av 180 at \$10.

Haley & M. sold Goose 15 av 225 at \$5.25; to McGuire 8 av 150 at \$10; to Burnstine 5 av 165 at \$10, 2 av 170 at \$10, 2 av 135 at \$10.

Wickmann sold Parker, W. & Co. 18 av 150 at \$9.75.

Spicer & R. sold Sullivan P. Co. 1 weighing 120 at \$9.25, 1 weighing 180 at \$8, 2 av 135 at \$10; to Newton B. Co. 2 av 135 at \$9, 2 av 120 at \$7; to Stocker 1 weighing 140 at \$8.50, 4 av 110 at \$8; to Goose 4 av 310 at \$5; to Mich. B. Co. 2 av 180 at \$8, 13 av 160 at \$10, 9 av 140 at \$9.75, 6 av 160 at \$10, 6 av 125 at \$9.50.

Long sold Breitenbeck 9 av 150 at \$10.

Receipts, 4,522. Market 15@25c lower than last week.

Best lambs, \$6.75@6.85; fair lambs, \$6.25@6.50; light to common lambs, \$5@6.25; fair to good sheep, \$3.50@4.25; culls and common, \$2.75@3.25.

Roe Com. Co. sold Nagle P. Co. 65 sheep av 125 at \$4, 18 do av 130 at \$4, 85 lambs av 83 at \$6.75, 96 do av 82 at \$6.75, 76 do av 75 at \$6.60, 80 do av 90 at \$6.65, 49 do av 70 at \$6.50; to Thompson Bros. 19 sheep av 120 at \$4; to Mich. B. Co. 15 lambs av 70 at \$6.75; to Nagle P. Co. 84 sheep av 110 at \$3.75, 112 lambs av 77 at \$6.75.

Johnson sold Sullivan P. Co. 71 lambs av 92 at \$6.60.

Bishop, B. & H. sold Hammond, S. & Co. 15 lambs av 65 at \$6.50, 50 do av 75 at \$6.90, 34 do av 58 at \$6.50, 31 do av 63 at \$6.50, 6 do av 78 at \$6.75, 8 sheep av 105 at \$3.75, 6 lambs av 65 at \$6.25, 5 sheep av 82 at \$3, 16 do av 120 at \$4; to Sullivan P. Co. 22 lambs av 68 at \$6.25, 12 do av 53 at \$6; to Mich. B. Co. 103 do av 80 at \$6.75, 53 sheep av 110 at \$4.25; to Gordon & B. 10 sheep av 103 at \$2.75, 18 do av 125 at \$3.75; to Eschrich 29 lambs av 60 at \$6.50; to Fitzpatrick Bros. 7 do av 68 at \$6, 11 sheep av 77 at \$2.75, 9 lambs av 70 at \$6.25, 102 do av 75 at \$6.85, 6 sheep av 130 at \$3.50, 9 do av 95 at \$2.75, 11 do av 110 at \$4, 24 lambs av 75 at \$6.65; to Hammond, S. & Co. 40 do av 73 at \$6.80; to Swift & Co. (sold Wednesday) 421 do av 83 at \$7; to Newton B. Co. 16 sheep av 90 at \$3; to Fitzpatrick Bros. 34 lambs av 73 at \$6.60.

Haley & M. sold Nagle P. Co. 235 lambs av 65 at \$6.25, 51 do av 63 at \$6.25, 6 sheep av 120 at \$4; to Hammond, S. & Co. 27 lambs av 65 at \$6; to Gordon & B. 34 do av 75 at \$6.35, 23 do av 80 at \$6.85.

Duelle sold Hammond, S. & Co. 31 lambs av 83 at \$6.75.

Spicer & R. sold Mich. B. Co. 34 sheep av 105 at \$3.40, 6 do av 95 at \$3, 27 do av 115 at \$4; to Newton B. Co. 90 lambs av 80 at \$6.75; to Sullivan P. Co. 10 do av 114 at \$6.40; to Newton B. Co. 27 do av 68 at \$6.35, 55 do av 80 at \$6.75, 5 sheep av 110 at \$4, 61 lambs av 83 at \$6.50; to Sullivan P. Co. 60 do av 80 at \$6.85; to Barlage 35 sheep av 75 at \$2.50; to Breitenbeck Bros. 16 do av 80 at \$2.90, 37 lambs av 75 at \$6.70; to Mich. B. Co. 30 do av 80 at \$6.75, 16 sheep av 130 at \$4.25; to Barlage 59 lambs av 70 at \$6.60; to Mich. B. Co. 75 do av 75 at \$6.65.

Receipts, 4,436. Nothing sold at noon; packers bidding 25c lower on pigs; 5@10c lower on others, than last Thursday.

Range of prices: Light to good butchers, \$9@9.10; pigs, \$8.75; light yorkers, \$8.75@9; heavy, \$9; stags one-third off.

Bishop, B. & H. sold Hammond, S. & Co. 1,405 av 180 at \$9.10, 181 av 160 at \$9.10, 258 av 160 at \$9.05, 45 av 130 at \$8.85, 67 av 130 at \$8.75, 216 av 140 at \$8.90, 67 av 110 at \$8.50.

Haley & M. sold Parker, W. & Co. 230 av 190 at \$9.10, 130 av 165 at \$9, 58 av 160 at \$9.05.

Spicer & R. sold same 170 av 200 at \$9.10, 100 av 180 at \$9, 135 av 160 at \$8.85.

Roe Com. Co. sold same 350 av 185 at \$9.10.

Friday's Market.
September 23, 1910.

Receipts this week, 883; last week, 1,126. Market steady at Thursday's prices.

We quote: Best steers and heifers, \$6; steers and heifers, 1,000 to 1,200, \$5@5.50; do, 800 to 1,000, \$4.50@5; grass steers and heifers that are fat, 800 to 1,000, \$4.50@5; do, 500 to 700, \$3.75@4.25; choice fat cows, \$4.25@4.75; good fat cows, \$3.50@4; common cows, \$2.75@3.25; canners, \$2@2.50; choice heavy bulls, \$4.25; fair to good bologna bulls, \$3.75@4; stock bulls, \$3.25@3.75; choice feeding steers, 800 to 1,000, \$4.50@4.75; fair feeding steers, 800 to 1,000, \$4@4.50; choice stockers, 500 to 700, \$4@4.25; fair stockers, 500 to 700, \$3.50@4; stock heifers, \$3.25@3.75; milkers, large, young, medium age, \$4@6; common milkers, \$2.50@3.50.

Receipts this week, 437; last week, 515. Market strong at Thursday's prices. Best \$9.75@10; others, \$4@8.50. Milch cows and springers steady.

Receipts this week, 6,296; last week 4,505. Market 25c lower than on Thursday. Best lambs, \$6.75; fair to good lambs, \$6@6.50; light to common lambs, \$4.75@5.75; fair to good sheep, \$3.50@5; culls and common, \$2.75@3.25.

Receipts this week, 4,982; last week, 5,715. Market 10c higher than on Thursday. Range of prices: Light to good butchers, \$9.25@9.30; pigs, \$9@9.15; light yorkers, \$9.25@9.30; stags one-third off.

South Dakota is looming up big as a stock feeding state, the large profits made by farmers in recent years encouraging them to extend their operations in preparing cattle, hogs and sheep for the markets of the country. South Dakota, like many other states, has a pretty good supply of young hogs, but mature hogs are scarce. The spring "crop" of pigs was reported as considerably larger than last year and, as in other states, there is a gratifying absence of hog cholera. Cattle feeders are preparing to feed larger numbers of cattle than last winter, having made substantial profits from last winter's operations along these lines. At Mitchell and Aberdeen the Pacific coast packers have stationed hog buyers, and good numbers of hogs are shipped from here to Seattle and Tacoma.

WANTED!
HAY OF ALL GRADES.
Write for quotations. One profit, from producer to consumer.
F. D. HEWITT,
120 Liberty St., New York.

Quickest to Heat Easiest to Clean

And best of all, it is most economical because it cuts down fuel bills one-third and will give as good service after a lifetime of use as on the day you buy it.

Only a range built of malleable iron and charcoal iron plates like the Arcadian can give this service. So-called steel and cast iron ranges cannot be riveted. They can only be bolted and the seams stuffed with stove putty to make them air-tight. Stove putty "dope" soon crumbles and lets false drafts through the seams, wasting fuel—making it impossible to control the fire, do good baking, or keep a fire over night.



ARCADIAN MALLEABLE NON-BREAKABLE RANGE

is made of tough malleable iron and charcoal iron plates and is riveted together, metal to metal, like a locomotive boiler, and is made lastingly air-tight without the use of stove putty. The Arcadian will never have false drafts. It's easy to control the fire—to get a hot fire quickly—keep it at the right heat, or let it cool quickly. No need to burn up kitchenware by setting it directly over the fire, because the malleable iron top is such a good conductor of heat—no need to use stove polish—easy to keep clean, just rub with oil rag—no ashes sifting out of cracks—oven thermometer and every modern improvement—the Arcadian saves money and saves work.

Free booklet—full of money-saving information about ranges, telling the inside facts about range making and showing up secrets—teaches you to detect weak points in ranges. Free. Write to-day.

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Arcadian Malleable Range Co.,
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**I'll Feed Your Stock
60 Days
Before You
Pay**

I'll Show You How To Get Hundreds of Dollars MORE PROFIT

PROVE it on YOUR Stock

—prove it before your eyes on your sheep, hogs, horses and cattle. I'll do even more. I'll show you how to positively stop your lamb, sheep and hog death losses —how to put flesh and fat on your stock at a much faster rate with no more feed. I'll do all this before you pay me a penny. I'll do it with



Read These Two Letters

"I have never invested money in anything from which I derived as much benefit as I did from your 'Sal-Vet'. My horses were in bad shape before I began feeding it and after using 'Sal-Vet' a short time they rapidly picked up and are now in better shape than ever before. I also used 'Sal-Vet' on a bunch of seventeen hogs and never had better hogs than these. They average 210 lbs. a piece and are less than five months old." —H. W. Ury, R. F. D. 1, Evansport, O.

"I find 'Sal-Vet' to do all you claim for it, and it does it better than any other stock remedy. I think I know because I have tried eight different kinds in the last ten years." —Joseph L. Hibbs Hillsboro, Ohio.

SAL-VET

I'll get rid of the pests that are costing you more money than you realize. I'll put the digestive organs of your stock in such a healthy, thrifty condition, they will grow like magic—I'll keep them that way, because SAL-VET not only kills and expels worms but "conditions" farm animals as nothing ever discovered will.

SAL-VET is a medicated salt, containing seven medicinal elements that work wonders. It goes to the root of the evil—(stomach and intestinal worms)—routes them out—cleanses the system—helps the digestion—enables the animal to derive more nutrition from the feed—saves feed—puts every organ in the pink of "condition"—works a wonderful change. Its base is salt—stock like it. Put it where they can get it, and they'll doctor themselves.

SEND ME NO MONEY

Merely send the coupon below. I'll send enough Sal-Vet to feed your stock 60 days. All I ask is an opportunity to prove it. It won't cost you a cent if I fail. You have nothing to risk. You want to stop your stock from dying off—you want to have finer animals—you want to make more money—get more work out of your horses—then send in the coupon below. The publishers of this paper vouch for my responsibility. You risk nothing.

Sidney R. Feil, Pres.
The S. R. Feil Company
Dept. M.F. Cleveland, O.

Prices: 40 lbs. \$2.25; 100 lbs. \$5.00; 200 lbs. \$9.00; 300 lbs. \$13.00.

Name _____
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No. Sheep _____
Cattle _____
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THE DAIRY

CONDUCTED BY COLON C. LILLIE.

FARM METHODS FOR THE DAIRY-MAN.

The greatest need of the average dairy farmer at present is the application of more intensive methods in the management of the farm and stock, methods which will give the greatest possible net returns for every acre of land contained in the farm. This requires first of all a system of management which will result in the enrichment of his land. Whoever sees poor farmers on rich land or rich farmers on poor land?

To enrich the land all of the crops should be fed upon the farm. Moreover, a large portion of the crops grown should be the kind that will enrich the soil even while they are growing. I am referring to the leguminous crops such as clover, alfalfa, peas, soy beans, etc., crops which have the power of using the free nitrogen of the air for their growth. The leguminous crops not only enrich the soil but furnish much of the necessary protein which is ordinarily supplied to cows in the form of expensive concentrated feeds purchased upon the market. Leguminous hay, therefore, largely takes the place of grain in the cow's ration. Alfalfa hay, for example, has pound for pound, the same feeding value as wheat bran.

Intensive dairying also requires restriction in the acreage of pasture. One acre of corn put into the silo ordinarily yields as much feed as three or four acres of pasture. Of course, the extra yield from the corn land is partly offset by the extra labor required to produce the corn on the other hand, more uniform feeding is possible with silage than pasture and it is difficult to estimate the value of this greater uniformity of feeding. Less pasture is needed and more silage to supplement any lack of pasture.

One of the great essentials in the enrichment of the land is the saving of the manure. Enough bedding should be used to absorb all of the liquid manure in the stable, and whenever possible the manure should be hauled direct from the stable to the land. If this cannot be done it should be stored under shelter.

One of the most important factors in intensive dairying is the quality of the dairy stock. One good cow such as is within the possibility of the average dairy man will yield twice as much milk and butter-fat as two of the kind now kept on the average farm. Think of what such difference in the quality of stock must mean to the success of the dairy! In the first place, only about one-half as much land is required to produce a given amount of milk and butter-fat from good cows than is required with poor or average cows; only one-half as much stable room is required; and, what is very important to every dairyman these days, only about half as much labor is required in milking and feeding. And there is a compensation in keeping good cows which cannot be measured by dollars and cents; I refer to the real pleasure to be derived from the handling of good stock.

To get the highest returns from the dairy it is necessary to keep enough swine and poultry to consume any surplus by-products, such as skim-milk, buttermilk and whey. Feeding the skim-milk upon the farm has a double advantage; its feeding value is greater than the price paid for it by the casein companies and by feeding it there is also saved to the farm about 90 per cent of its fertilizing value which amounts to at least ten cents for one hundred pounds of skim-milk.

If farmers would try to feed swine more largely on pasture and forage crops and less on corn, there would be more swine raised and less skim-milk sold to casein firms. What better grazing crops do we need than rape, peas, clover and alfalfa? Alfalfa furnishes excellent pasture throughout the summer and when supplemented in the fall with field pea pasture will go a long way toward preparing the pigs for market. It seems desirable, however, not to graze alfalfa until two or three years after it is sown. Pasture consisting of ordinary grass will furnish a large part of a pig's ration. To any of the grazing crops, skim-milk, buttermilk or whey and a little grain will furnish proper supplementary feeds for swine.

In the way of intensive dairy farming we have much to learn from European farmers. The majority of prosperous farmers of Denmark are not found upon 150 or 200 acre farms such as many American dairymen deem necessary in making

a living; these Danish farmers work a good living on twenty-acre farms. The dairy farmers of Holland and Germany likewise, possess but a comparatively few acres of land, but all of these farmers practice intensive dairying in the fullest sense of the word. This is what we need to do here we need fewer acres but better farming, fewer cows but more milk and butter-fat. Indeed, we have farmers here and there who have learned that quality counts for more than quantity in the dairy business, farmers who keep a cow to each acre of land and each cow returns on an average one hundred dollars or more per head annually. This is the kind of dairy farming that pays and pays abundantly.

Wisconsin.

JOHN MICHELS.

THE ADVANTAGE OF SILAGE OVER OTHER FEEDS.

There are several points which every cow owner would do well to consider if he is to get the best milk yield and reap the greatest profits from the herd. In the first place, a cheap ration must be provided, one that can be raised upon the farm; secondly, it must be well adapted to milk production and fed liberally.

As a rule, the greater portion of the feed can be raised at home which always lessens the cost of production. For that reason, corn silage has come to be recognized by nearly all stockmen as the most economical feed the farmer can raise. To show this more clearly we will figure the actual cost of feeding an average herd of ten cows from the time the pastures fall in the fall till grass comes in the spring or a period of some 240 days.

The amount of silage necessary for 10 cows for the given period, allowing an average feed of 40 lbs. to each cow per day would require 48 tons. The average yield of green corn per acre in northern states is close to eight tons. At this rate, six acres of corn would furnish a sufficient amount. The United States Department of Agriculture estimates the average cost of raising an acre of corn to be \$11.07, and reliable authorities figure the cost of putting corn in the silo to average 75c per ton. Then we may arrive at the actual cost of the feed as follows:

Cost of raising six acres of corn, \$66.42; cost of harvesting six acres of corn, \$36.00, which is a total of \$102.42. Cost of silage for 10 cows for 240 days, \$102.42; cost of silage for one cow for 240 days, \$10.24; cost of silage for one cow for one day, 4 1/2c.

According to the best authorities on animal feeding the leaves and the stalks contain about 37 per cent of the food value in the corn plant which is practically a total loss if the ears only are fed. 100 lbs. of silage contains 13 per cent of food material, at which rate 48 tons would contain close to 11,480 lbs. If this amount of food material were furnished in the form of prairie hay it would require 11 tons at \$12 per ton, or \$132; 12 tons of timothy hay at \$18 per ton, or \$216; 11 tons of oats at \$15 per ton, or \$165.

The economy of feeding ensilage is even more striking when we compare the cost of a ration made up largely of grain and oats where a part of the oats, corn and bran are replaced by corn silage.

Grain Ration.		
Material Used.	Pounds	Cost per day.
10 lbs. prairie hay	4.7	.06c
2 lbs. oats	1.2	.03c
6 lbs. bran	3.3	.06c
4 lbs. corn	3.2	.05c
1 lb. linseed meal	6.9	.02c
23 lbs.	Total.....	.19c
Silage Ration.		
40 lbs. silage	5.2	.04c
10 lbs. prairie hay	4.7	.06c
4 lbs. bran	2.2	.04c
1 lb. linseed meal	6.9	.02c
55 lbs.	Total.....	.19c

The above rations are figured for the average dairy cow and each contains practically the same amount of food material. It is noted that there is an actual saving of six cents per day. With a herd of 10 cows, this represents a saving of 60 cents per day or for eight months, the average time a dairy cow would be fed would mean a saving of \$144 in cost of grain, or \$14.40 per cow.

PROF. L. G. MARTIN.

TO PREVENT A COW FROM SUCKING HERSELF.

Can you tell me any way to stop a cow from sucking herself? She is a valuable cow.

New York.

H. W. C.

Put a bull ring in her nose and attach several pieces of light chain four to six inches long to the ring. These pieces of chain will prevent the getting of the teat into her mouth, or get a patent weaner,

A Case of "Wooden Leg"

Would you hire a man with a wooden leg? Hardly! A wooden leg is a poor substitute for real leg power. You would want a man with two good legs—full leg power—no substitutes.

Disks and other contraptions in common cream separators are like wooden legs—they are mere substitutes for lack of skimming force resulting from a wrong principle of construction. A properly built separator produces plenty of skimming force to do the work without disks or other substitutes. Claims that contraptions are needed in modern machines are disproved by the fact that

Sharples Dairy Tubular Cream Separators

contain neither disks nor other complications, yet produce twice the skimming force, skim faster and twice as clean as common machines. Wash many times easier and wear several times longer in consequence.

The World's Best. World's biggest separator works. Branch factories in Canada and Germany. Sales exceed most, if not all, others combined. Probably replace more common separators than any one maker of such machines sells.

Write for Catalogue No. 152

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Thousands in use. Made to fit any stable, durable, convenient and cheap. This space costs too much to tell you more. A pleasure to send booklet and price. ROY BROS., East Barnet, Vt.

Prices Sent Free
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Your Cows Need Comfort



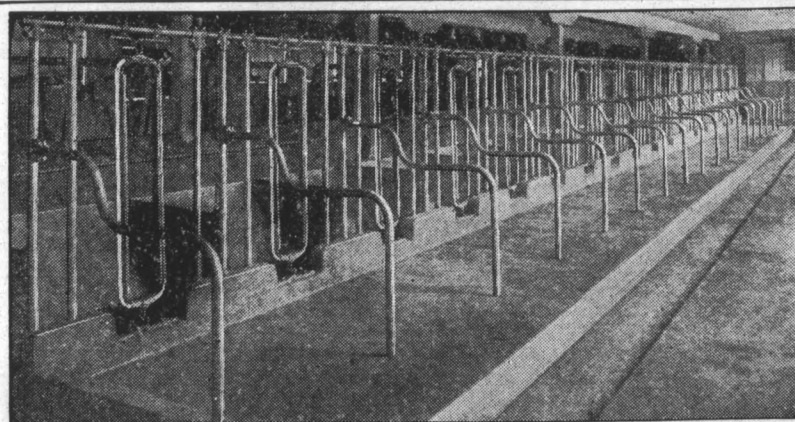
Give it to them with Louden's Sanitary Stalls and Stanchions. You will be repaid over and over by the increase of both quantity and quality of milk and the satisfaction of having a barn equipped with the most economical, and up-to-date sanitary barn equipment made. Louden's Steel Stalls are made of tubular steel. Simple, strong and practically indestructible. Once installed they are there for a lifetime. They afford ample ventilation, light and perfect sanitation. They have no flat surfaces to catch and hold dirt. Made for either cement or wooden floors.

Louden's Stanchions—are the perfect stanchions, affording the cow almost the same freedom when feeding or sleeping as if free, yet keeps them perfectly lined up at all times. Catch is easily opened with gloved hand, yet is completely "cow proof." Made entirely of steel. No wood to harbor dirt,—no sharp corners to injure cows.

The Louden Electro Galvanizing Process with which we finish Louden Equipment when desired, adds greatly to the appearance and durability of the equipment. It is a perfect coating of pure zinc, the best preventative of corrosion known, applied by special process, which is far superior to the ordinary hot process galvanizing. Investigation before equipping your barn may save you disappointment. It is cheaper to put "LOUDEN QUALITY" in your barn at first, than to experiment with inferior equipment. Write for catalog of modern labor and money-saving barn equipment.

LOUDEN MACHINERY CO. 603 Broadway Fairfield, Ia.

"We will have full exhibit of our goods at the NATIONAL DAIRY SHOW, to be held in the Coliseum, Chicago, Ill., October 20th to 29th. Come and see us. Bring along a plan of your building and let us figure with you there, where you can make comparisons of all goods on exhibit."



INTERIOR OF DAIRY BARN AT MICHIGAN AGRICULTURAL COLLEGE, EAST LANSING, MICH.

A. C. ANDERSON'S LETTER.

East Lansing, Mich., March 24th, 1910.

Kent Manufacturing Co., Fort Atkinson, Wis.:

Gentlemen:—The James Sanitary Cow Stalls which we purchased from you last spring have been satisfactory. They enable us to keep our barn cleaner and are labor savers as well as conveniences. Yours very truly,

A. C. ANDERSON, Professor of Animal Husbandry.

In these days of progress of agricultural education the great state schools and experiment stations are looked up to as authority in methods and equipment in farming and animal husbandry. Everything is done not only to instruct the farmers and dairymen in the various lines of production, but to demonstrate in actual use the desirability of improved apparatus. The James equipment appeals to the best practice in dairying, because it meets fully the modern requirements of sanitation, cleanliness, cow comfort, and consequent increased production and improved quality of products. No dairyman, even though he has but a few cows, should neglect to secure the very best. The item of labor saving alone will pay for the complete James equipment in one year and the increased product will stand for clear profit, above cost. Write for complete catalog and particulars to

KENT MFG. CO., 131 Cane St., Ft. Atkinson, Wisconsin.

\$1.95 AND UPWARD AMERICAN SEPARATOR



SENT ON TRIAL, FULLY GUARANTEED. A new, well made, easy running separator for \$15.95. Skims hot or cold milk; heavy or light cream. Different from this picture which illustrates our large capacity machines. The bowl is a sanitary marvel, easily cleaned. Whether dairy is large or small, obtain our handsome free catalog. Address

AMERICAN SEPARATOR CO. Box 1061 BAINBRIDGE, N.Y.

Don't Rust Farm Fence

Extra heavily galvanized. Sold direct to farmers at manufacturers' prices, 30 days' free trial. Freight prepaid. Also Poultry and Ornamental Wire and Iron Fences. Catalogue free. Write for special offer. The Ward Fence Co., Box 336, Decatur, Ind.

14 1/2 Cents a Rod

For 22-in. Hog Fence; 15 1/2-c for 26-in.; 18 1/2-c for 31-in.; 22c for 34-in.; 25c for a 47-in. Farm Fence. 60-inch Poultry Fence 32c. Sold on 30 days trial. 80 rod spool Ideal Barb Wire \$1.55 Catalogue free. KITSILMAN BROS., Box 278 MUNCIE, IND.

FENCE Strongest Made

Made of High Carbon Double Strength Coiled Wire. Heavily Galvanized to prevent rust. Have no agents. Sell at factory prices on 30 days' free trial. We pay all freight. 37 heights of farm and poultry fence. Catalog Free. COILED SPRING FENCE CO., Box 21 Winchester, Indiana.

48 IN. FENCE a rod 25c

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.

MENTION THE MICHIGAN FARMER when writing to advertisers.

one with long sharp prongs on, and put into her nose. I know a case where the owner inserted a wire about a foot long through the nose and bent it so it pointed out straight from each nostril. The ends of the wire were made sharp.

GRAIN RATION WITH CLOVER HAY.

I notice in "Farmstead Notes" that Mr. Lillie states that he is giving his cows two feeds of clover hay each day; also a grain ration. I would like to know what the grain ration is and how much each cow gets at a feed. The windows in my cow barn are 28x36 in. What is the best way to arrange these windows so that they can be opened and closed easily for ventilation?

Lenawee Co.

L. J. D.

After the ensilage was all fed out on the first day of August we began feeding clover hay twice a day, and for a grain ration dried, beet pulp once a day and good gluten feed once a day. Just as soon as we threshed the peas and oats, we substituted them for the gluten feed and are now feeding beet pulp once a day and ground peas and oats once a day. Some years it would not be possible to feed peas and oats so early because they do not get seasoned well enough to be ground, but this year being so exceedingly dry and the crop being so nicely matured without any moisture in curing, the peas and oats were dry enough to grind as soon as threshed. The cows that are giving a good flow of milk, those that came in late last spring and cows that are coming in fresh now, we are feeding about three pounds of peas and oats and about four pounds of beet pulp. The dry cows and strippers are not fed as much. We have a few two-year-old heifers that are coming in soon now and we are feeding them pretty liberally, about the old cow ration, just before they come in. The idea is to get them into splendid condition before they drop their calves.

I think the nicest arrangement with windows where one wants to use them for ventilation is to have them put in on hinges at the bottom, so that you can pull out the top. This throws the current of cold pure air up toward the ceiling and prevents draft in the stables. It also mixes the cold pure air with the warm air up next to the ceiling, which is much better than it is to have it come in a draft lower down and strike the cows and in some instances cause trouble from colds.

WINTER DAIRYING WITHOUT A SILO.

I was much interested in reading the article in the September 3 issue of the Michigan Farmer on "Summer Dairying," by W. F. Taylor. I have only 22 acres and can keep but two or three cows. Therefore can not fill a silo. I do not keep stock enough to use one if I could fill it, for the silage would spoil faster than I could feed it. How would Mr. Taylor or Mr. Lillie manage to keep up the flow of milk during the winter with only dry feed? Bran and middlings are \$28 per ton and I have raised only a very few roots. Would you advise me to sow an acre of roots next year and plan to begin winter dairying next year? Do you think there is anything left for the farmer who produces milk from dry feed at present prices of feed and butter?

Allegan Co.

D. C. D. W.

There isn't any question but what you can keep up a flow of milk without corn silage. Silage is not necessary. The silo is a comparatively recent invention, or method of storing corn and people have been in the dairy business a long time before the silo was ever heard of, and with good results, too. The only question is that silage is cheaper food than anything else that we can produce on the farm. It is the best way to harvest the corn crop, and the most economical, and consequently, other things being equal, we can produce milk and butter-fat cheaper with corn silage as a basic ration than we can without it. But we can get good flows of milk without corn silage. To be sure, a succulent food in the ration is an excellent thing. As a matter of fact, you can't get cattle of any kind to do their best for long periods of time on dry food. It is just the same with the lower animals as it is with us. We like a little fruit, to have it every day is best, but occasionally is better than none at all, to keep the digestive tract in good condition. In the same way we should furnish a succulent food in the ration for the dairy cow, or any other stock. It is the cheapest food you can get, the more of it you can feed the least expensive will be the dairy product produced. Now, if you can't have corn silage, then raise roots, mangle wurzels. They will take the place of corn silage. In England they do not grow corn, but use roots entirely for the succulent food.

In many parts of Canada also, they grow roots also for the succulent food. I used to do it myself before we knew anything about the silo. We used to raise acres of mangle wurzels and store them and feed to the cows every day, and it is entirely practical, even with a large herd to have roots to feed and certainly with a small herd it is the dairyman's salvation. I think with good cows to begin with, with good care, and good liberal economical feeding, that a man can make a good fair profit at the dairy business at present prices of feed and dairy products.

TEMPERATURE OF CREAM FOR TESTING.

Does it make any difference in testing cream about the temperature of the water and the age of the acid? I have been told that it does and would like to hear from you in regard to it.

Lake Co.

R. E. W.

No one pays any attention to the temperature of cream when testing it for butter-fat. You weigh out 18 grams of cream and put it in a test bottle and then you put in a sufficient amount of acid to destroy the caseine in the cream. When this is fairly shaken together the chemical action of the acid on the casein will warm it up so that it makes no difference about the temperature. Now when the bottle is put in the centrifugal machine and whirled rapidly, so that there is a separation of the butter-fat from the other substances in the cream, the fat comes to the top, being lighter. Now hot water is put into the bottle to float the butter-fat up into the neck of the bottle which is graduated so that it can be read. This water wants to be quite warm. If it isn't it won't keep the fat liquid. The fat must be kept liquid in order to be read properly. It is in this way only that temperature has anything to do with the testing of cream.

DAIRY INTERESTS AT STATE FAIR.

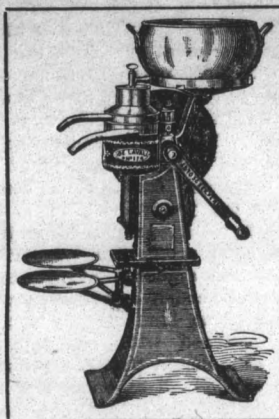
The exhibit in the dairy building was not as attractive to the general public as in former years. The usually large special butter display was lacking, and the show of the state dairy and food department was confined to a single illustration of the food value of dairy products as compared with other foods, such as eggs and meat. It conveyed to the eye the relative food values of cheese and butter as compared to the expensive cuts of meats, eggs, etc. It was a splendid object lesson of which we should have more at our fairs; and it should bring to dairying a broader appreciation of its products. The separator exhibit was good. Agents were receiving considerable attention from farmers in the market for such goods.

In the barns patrons were pleased. The stock was never better at a Michigan fair and the quantity was nearly double the number shown a year ago. Many of the leading dairy herds of the country were in the stables. The Brown Swiss, Ayreshires, and Guernseys were represented with large herds that gave the persons wishing to compare breeds a better chance than they have yet had at the state fair, to see representative animals. The Jerseys and Holsteins were leaders in point of numbers and showed their usual rivalry; and the advocates of either breed did not need to feel ashamed of the animals that were capturing the admiration of the throngs passing through the barns and tents where it was necessary to put the overflow. There was nearly 50 per cent more dairy animals on the grounds than in 1909.

As is true where there are large numbers of animals competing, the rivalry was strong for the prizes. This competition gave the show a lively interest. It pleased the management and the patrons. The dairy cattle did their part in bringing over to the products of the farm attention that generally goes to the petty side shows and other entertainments of questionable value. And it can well be said, of the show just passed, that of the large number who came fewer appeared to be there for pleasure and more to secure educational advantages offered. The dairymen were among the busiest seeking information to carry home and make a part of their progressive livelihood.

FACTS ABOUT CANCER.

A booklet published by the Leach Sanatorium of Indianapolis, Indiana, contains interesting information about the cause of cancer. It tells what to do for pain, bleeding, odor, etc., and advises how to care for the patient. The booklet is sent free to those interested who write for it, mentioning this paper.



An Interesting Incident at the Ohio State Fair

DE LAVAL'S Friends Loyal

Among the many visitors to our booth at the Ohio State Fair at Columbus this month was a lady who wanted our representative to show her a DE LAVAL. He took the separator apart for her and she seemed surprised at its simplicity and especially at the short time it took to take the machine apart and to put it together again.

"Why," said she, "I've got a separator in on trial and their agent told me that the DE LAVAL was complicated, and that it was hard wash and that the discs would soon rust."

Just then a lady close by spoke up and said, "Why, it's no such thing! I've had a DE LAVAL for eight years and I've never had a bit of trouble with it. It's just as good now as it was when I bought it, and besides it will skim cold milk, and that's what the machine you've got won't do, or any other that I know of, for that matter."

By that time a dozen or more people had gathered round and no less than seven people spoke up and said that they owned DE LAVAL separators and that they were giving splendid satisfaction.

There was one man in the crowd whom the lady looking at the DE LAVAL knew, and she turned to him and asked, "You've got a machine like the one I'm trying out. Isn't it alright?" "Well," he admitted, "it's certainly better than skimming by hand, but it's mussy and gets milk on the floor; it's hard to turn, and if I were going to buy a new separator today it would be a DE LAVAL. I know more about cream separators now than I did two years ago. My brother has a DE LAVAL, and he has tried them all and says the DE LAVAL is the best."

Our salesman didn't have a chance to talk the merits of the DE LAVAL. Our good friends in the crowd persuaded the lady that she ought to give the DE LAVAL a trial before she made any choice, and before she left the hall she gave an order to have a DE LAVAL sent out to her house, and after a ten days' trial she bought the DE LAVAL.

There is a moral to this story: Don't buy a cream separator until you have given the DE LAVAL a trial. It costs you nothing to try it.

The more you come to know about cream separators the more apt you will be to buy a DE LAVAL.

THE DE LAVAL SEPARATOR CO.

165-167 BROADWAY NEW YORK 42 E. MADISON STREET CHICAGO DRUM & SACRAMENTO STS. SAN FRANCISCO
173-177 WILLIAM STREET MONTREAL 14 & 16 PRINCESS STREET WINNIPEG 1016 WESTERN AVENUE SEATTLE



"Makes Cooking Easy."

Famous For Baking

No fussy ornamentation or fancy nickel on the Plain Cabinet Glenwood. Just the natural black iron finish. "The Mission Style" applied to a range.

The Broad, Square Oven

with perfectly straight sides, is very roomy. The Glenwood Oven Heat Indicator, Improved Baking Damper, Sectional Top, Drawout Grate, Ash-Pan and Large Copper Reservoir are each worthy of special mention. It can be furnished with fire box at either right or left of oven as ordered.

Cabinet Glenwood

Write for handsome booklet No. 5 of the Plain Cabinet Glenwood to Weir Stove Co., Taunton, Mass.

HORTICULTURE

THE FRUIT EXHIBIT AT DETROIT.

In speaking of the quantity of fruit at this year's exhibit at the state fair we can but repeat what has been said at former fairs. The tables were well filled. All available space in the large horticultural building was well occupied with fruit and greenhouse products. The different sections of the state were as well represented as usual, some of the new fruit counties making especially good showings. Apples were particularly prominent.

But for all that is said above it must be conceded that this year's exhibit is far superior to any fruit show that has been put on in Michigan. The later date enabled Michigan growers to get their fruit better matured. It showed that quality for which the Michigan product is noted. At former fairs this has been impossible.

The exhibit of 1909 apples that were kept over in cold storage made an impression upon patrons, who believed that good looking fruit could only be grown in the west. The expressions of admiration for this part of the show could not but be noticed. It was a great object lesson. It put the question, "Were these apples grown in Michigan?" into the minds of

the same amount of soda was used in two equal dressings the gain was but 3,220 pounds. When 300 pounds of nitrate was used in two equal dressings the increased yield was 4,610 pounds. When the same amount was applied in three equal dressings the increased yield was but 3,540 pounds. The third application in this case caused a larger growth of vine and later maturing fruit, thus considerably reducing the yields.

In tests with various crops it appears that a good profit can be derived from using liberal amounts of nitrate of soda for market-garden crops, even when they are planted on land already rich and liberally fertilized with complete fertilizer. It was also shown that the nitrate should not be applied all at once, but in two or three applications throughout the growing season, depending on the nature of the crop, the character of the season, and the growth of the crop.

Washington, D. C.

G. E. M.

HANDLING THE APPLE CROP.

It is astonishing to observe during a visit to the leading fruit markets almost any day during the late fall and early winter how very little care most apple growers take in handling and grading their fruit for market. Undersized, cull fruit is not wanted by the trade. Inferior apples always sell at a big discount.



Attractive Fruit Displays at West Michigan Fair.

hundreds of visitors, particularly those from the cities and from the general farming districts. A mistake in the printed catalogue regarding the premiums for 1909 apples was held to have kept some exhibits away. Another mistake kept away exhibits of cut flowers from amateurs as the list for professionals was duplicated in the amateur list. But in spite of these handicaps the exhibits can be counted as Michigan's best effort in the way of putting up a fruit show.

We are beginning to open our eyes to the possibilities in fruit culture in this state. Men are investing brains and money, and the new light thus brought to bear upon the industry is attracting general attention. This interest is being reflected in Michigan's fairs. The fruit is better selected and better displayed. Men are taking pains to get that which is more representative of the best of what she is growing. Not only do they take more pains but they are ready, anxious and even enthusiastic to do it.

We believe what was shown at the state fair will help men who want good fruit to know where to get it. We believe it will help men who desire to grow fruit to know where to locate. We believe that a better horticulture for the state will follow the lessons taught, the admirations expressed, and the possibilities shown. In other words, it is our opinion that this exhibit has accomplished in a very large way, its purpose.

Behind the whole show we see the splendid work of the master hand of Prof. Taft and his corps of workers who have labored unceasingly to make the exhibit what it was, and they, as well as the exhibitors, are to be complimented for the results; and to them all the state owes much for their effort.

NITRATE OF SODA FOR TOMATOES.

In experiments conducted by the New Jersey Station it was found that with tomatoes the heaviest yields were obtained when 200 pounds of nitrate of soda was used per acre in three equal dressings—that is, the first when the crop was planted, the others when the character of the season and the growth of the crops indicated. The increase in the yield in this instance was 5,880 pounds. When

The better grades of fruit carefully packed in attractive packages will bring more money on any market than the whole crop mixed and placed on the market in a uncouth condition. Apples must be well packed and graded if they meet the competition of other fruits of the season. Such a waste is inexcusable.

I shall discuss this problem largely from the standpoint of the men who have a number of acres of orchard and to whom it is a living interest to secure the best market price for their fruit. The average apple grower is not prepared to hold his fruit for higher prices. He must sell his crop before cold weather comes. If he secures a good price for his fruit he must find the best buyers. Apple buyers are very busy men during the harvesting and shipping period, consequently they cannot look after small lots. It is therefore necessary that apple growing be conducted on a large scale by individuals or by the co-operation of small growers. Frequently a number of orchardists find it advantageous to join together and hire their fruit graded and packed by experienced men and hauled to the cars as fast as they are ready for shipment. By employing competent help to pick, grade and barrel the fruit each man is insured of a square deal and the whole output is more uniform. Few men have a better opportunity to study human nature than apple buyers and it is my honest belief that better and more satisfactory results will result when the fruit is graded by men who have no financial interest in the work.

To facilitate the work of picking the fruit, all of the fallen fruit should be gathered from the ground before picking begins to save trampling by the pickers and to prevent the later falling fruit from becoming mixed with them. Apples should not be picked until they have reached nearly their normal color for the variety, and until they can be removed from the trees without breaking the stems and injuring the fruit spurs. Good color adds nearly one-half to the market value of apples. Fine flavor and good color are very closely related. Too early picking and hurrying to market in a green and immature condition reduces the prices and is detrimental to the keeping qualities of the fruit.

New York.

W. MILTON KELLY.

A Light Making Machine with a Strange Appetite



and it will supply you with enough home-made gas to run thirty-five lights. Just the thing for a farm or a country place of any sort.

Makes a cheap exceptionally brilliant light—more economical than kerosene and quite as convenient as electricity. Already there are 185,000 of these machines furnishing light for as many homes.

* * *

You can set one in one corner of your cellar or in an out-building. Then all you need to do is to feed it the curious crushed stone known as "Union Carbide,"—a few pounds once a month.

The machine does the rest—automatically it brings the carbide a little at a time in contact with plain water.

The water liberates genuine acetylene gas stored in the carbide. This it does only when the lights are burning. Makes just enough acetylene to supply the lights in use and stops working when the lights are shut off.

* * *

You can have a cluster of lights in every room in the house—one in the cellar,—one in the attic,—one on the front porch,—one at the back door,—one in the shed,—one in the barn yard,—two in the horse barn (or garage, if you have one), and four in the cow barn.

With an installation of this

kind, you would have positively the most efficient and safest light equipment money can buy.

The "Union Carbide" which comes to you in sheet steel hundred pound drums won't burn and can't explode.

The fixtures are permanently attached to walls and ceilings—the light flame is so stiff, wind does not affect it.

Every burner can be equipped to light with the pull of a chain—no matches required; and in addition to all this, the gas is not poisonous.—You could sleep all night in a room with an open burner and suffer no harm.

* * *

Considering these advantages, is it any wonder that the engineers of the National Board of Fire Insurance Underwriters have pronounced modern Acetylene Light Safer than any of the illuminants it is displacing?

The cost of a plant depends upon the number of rooms, barns and buildings you wish to light.

Write us how many and we will send you an estimate free, together with an intensely interesting booklet telling all about the light for home use and how it has been used successfully by Cornell University to grow plants—same as sunlight. Just address Union Carbide Sales Co., 157 Michigan avenue, Chicago, Ill., Dept. O-34

Figure the Saving in Dollars

MADE BY USING AN

Imperial Flexible Frame Harrow

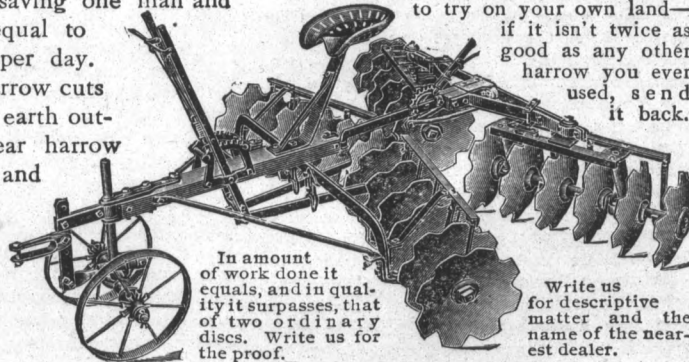
Double Disc

It works the ground twice at one operation, saving one man and two horses—equal to at least \$3.50 per day.

The forward harrow cuts and throws the earth outward. The rear harrow works it again and throws it back.

The surface is levelled and the soil finely pulverized.

Try an Imperial Harrow at our expense. Any Imperial dealer will let you have one to try on your own land—if it isn't twice as good as any other harrow you ever used, send it back.



In amount of work done it equals, and in quality it surpasses, that of two ordinary discs. Write us for the proof.

Write us for descriptive matter and the name of the nearest dealer.

The Bucher & Gibbs Plow Co.,

806 E. SEVENTH ST., CANTON, OHIO.



FREE BOOK FOR HUNTERS AND TRAPPERS

Send 5c for CAMP AND TRAIL, a great 24 page weekly; or 10c for HUNTER-TRAPPER, a big 160 page magazine; both devoted to fishing, hunting, trapping, etc. With either one we'll give you absolutely free, a 64 page book, "Hints for Hunters and Trappers." Contains all the fur and game laws, many hunting and trapping secrets. Worth hundreds of dollars. A. R. HARDING PUB. CO., Box 279, Columbus, Ohio

BOWSER SWEEP MILLS

Different from all others. 4 or 2 horses Geared 16 to 1 or 7 to 1. Grind Corn with shucks or without. And all small grains including Oats and Wheat. (Also make 10 sizes belt mills.) D.N.P. Bowser Co., South Bend, Ind.

GRANGE

Our Motto—"The Farmer is of more consequence than the farm, and should be first improved."

THE OCTOBER PROGRAMS.

State Lecturer's Suggestions for First Meeting.

School Day Program, prepared by the State Woman's Work Committee.

Roll-call, responded to by telling the worst predicament you got into while attending school.

Question—Is it just to require eighth grade state examination of rural pupils and none of the town pupils?

Question—Shall we put one or two traveling libraries into our school this year? Reading, "Old Glory at School."

Distribution of primary school fund—Discussion.

Reports of committee appointed to visit schools in Grange jurisdiction.

Would conditions be improved if mothers visited schools oftener and attended school meetings?

Question—What educational features at the fairs impressed you as most valuable?

Interperse music, dialogues, recitations, orations, etc., from different schools throughout this program.

Refreshments, serving of model school lunches.

PREPARATIONS FOR STATE GRANGE.

Plans for the entertainment of State Grange at Traverse City in December are being pushed toward perfection. On the strength of the last State Grange and the coming session two subordinates in Leelanau Co. and two in Benzie Co., have been organized, thus giving four additional subordinates to the Grand Traverse region and about 100 more Patrons from which to draw material for the reception committee. The outlook is excellent for still another Grange in Leelanau Co., and when this has been organized at Northport, as is planned, the county will have the four Granges necessary to the organization of a Pomona. This the officers of Grand Traverse Pomona have promised to help organize. There is better than an even chance that another Grange will be installed in Benzie Co. within a month, giving that county the benefit of two sets of delegates at the coming state meeting.

The efficient work of the local entertainment committee is well remembered by all who attended last year's meeting. Bro. Geo. L. Crisp, Grand Traverse county's school commissioner, is again at the head of this committee. A prominent feature of this year's meeting will be the farm products display, it being planned to have this exhibition take the place of a local fair, with all the counties of that section co-operating in putting up a showing of fruits, vegetables and grains which will prove a real eye-opener to all in attendance from other parts of the state.

THINK ON THESE THINGS.

Three incidental observations impressed themselves on my attention during a tour of some of the rallies this past summer and have somehow associated themselves in my mind. I set them down here in order that, if perchance they have any value in them, its leaven may work itself out in the minds of other persons or possibly some Granges.

The first was a remark made by a young girl who, like myself, was waiting in a hotel parlor in a town of considerable size. Whether the town merited the censure or not, this girl's sole comment upon it was to the effect that "there's nothin' doin' here."

The second circumstance was the fact of extensive rally preparations made by the young men of a certain Grange and the unavoidable impression made upon the mind of a stranger to the community that its young people comprised a factor that was reckoned with thereabouts. Several references, heard from one and another, to the activity of the young people, to their relation to the Grange and to the Grange's attitude toward them, led to the conclusion that this Grange existed largely for the purpose of developing and training its younger members in leadership. In connection with such references as these, I heard quoted, as having been said by someone in the neighborhood, an opinion that is most extraordinary for its newness. It was in substance this: "If Saturday afternoons were declared a half holiday on all the farms about here, there would be little danger of Sunday baseball, etc."

The third observation was in connection with one of Michigan's finest hardwood groves—a splendid piece of beech and maple woods. Here, under its checkered

canopy, was held our daytime rally; and here, at night, in the inner heart of its secluded recesses, we gathered again and, from a stage dimly lighted, rendered a program of music and mirth, balanced by soberer strain. It was an occasion to treasure and remember—the picture of those natural, swaying stage-settings of leafy sprays and branches, lighted only by gleams from hanging farm lanterns; and those faces of men, women and children looking out of the semi-darkness, interested, alert and rested. It was an auditorium the like of which wealth could not rear in a century and such as is only here and there possessed by a community of extreme culture and foresight. Across the road from this grove is a corner store and creamery, beside it stand a church and Grange hall, making it close to the real community center. No wonder a chill of dismay struck the heart of everyone that day at remembrance of the fact that the owner of this splendid grove had decreed positive destruction of it within a year. No wonder the exclamation leaped to the lips of more than one, "Oh, why can't they be spared by some means? If not by individual possession, why not by neighborhood ownership? Surely they are invaluable for the sake of the social and aesthetic influence on the scores of young people who are here today?"

Here, then, are the three points upon which we may or may not hang further thought or discussion, according to our willingness or unwillingness to be joggled out of deeply-cut ruts: first, there is the fact of activity as a natural craving and asset of youth; second, there is the suggestion of allowing a stated time for recreation by making a rural weekday half holiday, same as is common in cities; third, there is the question, could a community afford to invest in a piece of ground for purposes of recreation, athletic contests, and programs of instruction and diversion? JENNIE BUELL

COMING EVENTS.

National Grange, Forty-fourth annual session, at Atlantic City, N. J., Nov. 8-18.

Michigan State Grange, Thirty-eighth Annual Session, at Traverse City, Dec. 13-16.

Pomona Meetings.

Lenawee Co., with Ogden Grange, Thursday, Oct. 6. Election of State Grange delegates.

Wayne Co., with Harmony Grange, at Romulus, Friday, Oct. 14.

Lapeer Co., with South Grange, Thursday, Oct. 20. Miss Jennie Buell, state speaker.

FARMERS' CLUBS

OFFICERS OF THE STATE ASSOCIATION OF FARMERS' CLUBS.

President—B. A. Holden, Wixom.
Vice-president—Mrs. C. A. Mathews, St. Johns.

Secretary—Mrs. C. B. Johnson, Metamora.

Treasurer—Henry T. Ross, Brighton.

Corresponding Secretary—N. A. Clapp, Northville.

C. Hallock, Almont; A. R. Palmer, Jackson; Wm. H. Marks, Fair Haven; C. L. Wright, Caro; E. W. Woodruff, Blanchard.

Address all communications relative to the organization of new clubs to Mrs. C. P. Johnson, Metamora, Mich.

Associational Motto.—

The skillful hand, with cultured mind, is the farmer's most valuable asset.

Associational Sentiment.—

The farmer, he garners from the soil the primal wealth of nations.

CLUB DISCUSSIONS.

Care of the Woodlot.—The Hadley and Elba Farmers' Club met at Stony Brook with Mr. and Mrs. Frank Smith, Sept. 15. Carrie B. Snook gave a fine select reading and in the absence of Prof. Gaylord, of M. A. C., Wm. R. Johnson, one of our M. A. C. boys, spoke of the "Care of the Farm Woodlot." He outlined the work as done at the college and forest reservation, also the work of the forestry department. This was very entertaining and thoroughly enjoyed by all.

Arrange for Club Fair.—Arrangements for the Club Fair on October 20 at the Hadley town hall, appointments of committees, etc., occupied the rest of the afternoon. Mr. and Mrs. Smith were elected general managers, which insures good work as they have had much experience in that line of work. After a bountiful tea and feast of watermelon, muskmelon, etc., the Club adjourned. The Club Fair occurs October 20, with the following program: Farm Horticulture, A. M. Bullock, C. J. Johnson; select reading, Edith Mills; Advantages and Disadvantages of Farm Life, Mrs. Wm. Bartenfelder and Mrs. Martha Davenport. Bring your old relics, fancy work, big potatoes, etc., and have a good time with us. A picnic dinner will be served.—Mrs. C. P. Johnson, Sec.

Plan for Club Fair.—Thursday, Sept.

8, about 40 members of the Washington Center Farmers' Club might have been seen driving along the "county line road" all going westward over the hills and along the banks of Maple river, enjoying one of the fine September mornings, for an invitation had been given by Mr. and Mrs. C. A. Matthews to meet with them in September when peaches and melons are ripe. A sharp turn in the road showed the peach orchard at "Maplevalle" the home of the vice-president of the State Association of Farmers' Clubs in Essex, Clinton county. Here we were met by our host and hostess and given a hearty welcome. The forenoon session was forgotten. Up the hill to the peach orchard, down the winding path to the river, out and over the fields to see the farm, went the Club and all agreed that Essex is a good place to live. The dinner hour showed long tables in a charming little grove, all ready for a picnic dinner. Here we found peaches to the right of us, peaches to the left of us, melons in front of us, enough for six hundred. There were not so many when we came away. The afternoon session was called to order by President Canvinet and music by the Club and the usual order of business followed. Roll call was responded to by what I like best about the Club. The subject for general discussion was "Why parents should visit the school." Select reading by Mrs. Kizer and music by quartette came next. The "Useless things in housefurnishings," by Mrs. French was next on the program and was also made the subject of general discussion. Plans for the October fair were then taken up and discussed, and with a vote of thanks to our entertainers the Club adjourned, and drove home to Gratiot county, taking with them the memory of one of the most pleasant days in the Club's history.—Mrs. C. J. Campbell, Cor. Sec.

Discuss Convict Labor on Highways.—The Summit Farmers' Club held its September meeting at Shadelands, the beautiful home of Mr. and Mrs. Eugene Bagg. After the meeting was opened for business, a vote of thanks was extended to Mr. and Mrs. Odell for the royal manner in which they entertained the Club at their annual picnic held at Hague's Park, August 17. Some very fine musical selections were given by Mrs. Beaman, Mrs. McDevitt, Miss Mabel Lyon and Miss Marjorie Gray. Mr. McDevitt read a paper on the building of good roads, and advocating the using of the prisoners for that purpose, as has been done in Kalamazoo. Mr. Bagg thought that it might work in Kalamazoo, but doubted that it could be done in Jackson. Mr. McDevitt thought that to work the Kalamazoo plan successfully, would have to work under a county reward law, but Mr. Purdy said that was not necessary. Mrs. Beaman, "When I was in the west I rode over miles of good roads made by chain gangs of prisoners, and it seems to me that our prisoners might be used the same way and help pay for their support." Mr. Ellison: "Last year some of the farmers had their corn husked by prisoners, but it was decided that it was unconstitutional to take them outside the walls." Mr. Purdy: "I would like to see a piece of road in Summit built under the state highway reward law. Think we have stood in our own light by not applying for road under that law, for we have to help pay for roads for others."

Favors Government Aid in Road Building.—Mr. Angell: "The government helps the railroads, and it should help the highways as they are vastly more important. Now is the time for us to get busy with our congressman, but we should have done it before the primaries." Mr. McDevitt: "The common people want some attention paid to them. Could not help but notice, in a trip up the lakes, how the government is opening the channels, not for the people but for the corporations." Mr. Purdy: "The different farmers' organizations should pass resolutions on the good roads question and give to our congressmen." Mr. Berry: "Would suggest that a committee of four be appointed to draft resolutions on the good roads question to present to our representative and senators." Mr. Bagg: "Would say amen to all that has been said along this line, and would like the resolutions to start from this Club, and if our representatives and senators do not take notice of us, we will show them where we stand when they want our notice." Mr. Kennedy: "While donating work to a section of road that we have to travel a great deal, an auto came along and threw out the dirt faster than we could put it back. Believe if the money was distributed as it should be, men would not have to donate work. Auto taxes should be paid back to the county where they are owned and turned into the road repair fund." A committee was appointed to draft resolutions on good roads question. A rising vote of thanks was given to Mr. and Mrs. Bagg, and the Club adjourned to hold the Club fair at Mr. and Mrs. Wm. Blake's, on the 20th of October.—Mrs. J. L. Eddy, Cor. Sec.

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