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\$2.75 5 YEARS.

A TREMENDOUS amount of concrete is yearly being placed in contact with the ground or subjected to any chemical reaction which may take place due to ground water. With the indication of permanency which such work gives there is little reason to believe that cement drain tile properly made and cured will not last for an indefinite period of time. I am assured by men acquainted with the composition of soil and ground water that for the most part water found in Michigan soil contains very little matter which will react chemically upon cement, or which is found in such small quantities as to be harmless.

In some sections of the country where the ground water contains a great deal of mineral matter, for example, as the alkali regions of the west, there may be some question as to the permanency of cement and concrete. Swamp or peat land in our own state may also contain acids from the organic or decaying vegetable matter in amounts sufficient to cause a deleterious effect upon cement, although we would expect it to be slight. Upon other kinds of soils, however, little apprehension need to be felt from these sources.

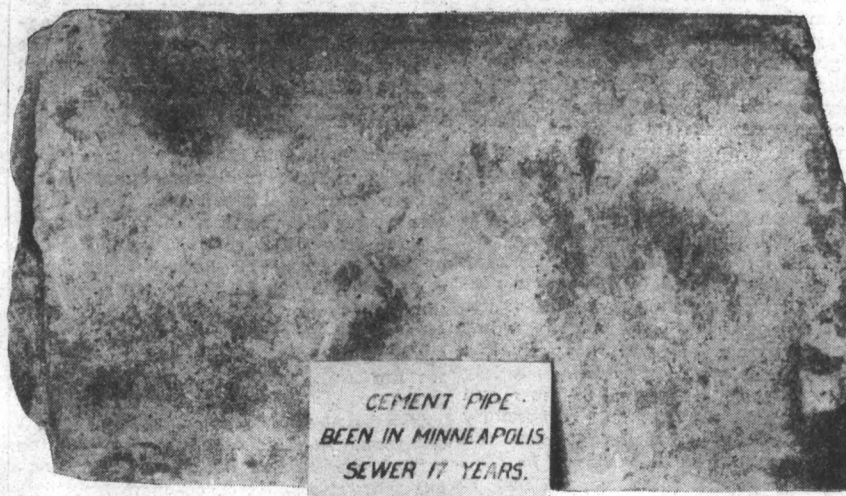
Other causes of disintegration besides the ones above may be named as frost and faults in the tile themselves. To note the effect of the former a number of four-inch tile were frozen solid in a tank of water and a similar number buried to a depth of six inches in a wet exposed place during the previous winter. Of the ten frozen solid in the tank two were uninjured and the remainder were cracked or broken, as might be expected; but of the ten subject to the action of frost in the ground not one showed any signs of cracking or disintegration. The tile were taken at random from a pile made for actual use. Of some 500 piled upon a cinder bed out of doors none were broken from the action of frost.

The trouble from cement tile is more likely to come from faults in manufacture. If poor materials are used, such as dirty sand or poor cement, or worse, perhaps, if these are insufficiently mixed or neglected in curing, it is not to be expected that a tile will be obtained which will withstand all conditions.

Sand for cement tile should be clean, which means that it should be free from clay in amounts of more than five per cent and organic matter. Cement should be of reasonably good quality and not too old. Some indication of freshness may be shown in its fluffy velvety feeling as well as the absence of hard lumps. The cement and sand should be mixed in a proportion of one to four of cement and sand or with good clean sand, properly graded in size of grains—a proportion of one to five may be used. By properly graded sand is meant that varying in size of grains from fine to that which will just pass through a half-inch screen. A preponderance of coarse material is desirable. The sand and gravel should be thoroughly dry mixed and water added, and the material mixed until it appears uniform—say, shoveled over two or three times. The tile should be made as wet as the molds will stand. Keeping in mind that cement requires water to complete the physical and chemical change which takes place in setting, and that this process continues indefinitely, it is obvious that some means of supplying that water by keeping the tile wet or damp must be provided. The setting process continues most rapidly for the first month and the tile should not be used for that length of time. Ten days is the time usually recommended for keeping cement work wet and may be taken as a good time for tile.

In places where sand is difficult to ob-

The Permanence and Cost of Cement Drain Tile.



A Well Preserved Cement Tile, for Many Years Exposed to the Acids of Sewage.

tain and where clay tile is extensively manufactured the home manufacture of cement tile may not be advisable, but in sections where clay tile are not easily obtained and where sand is convenient, their cost will usually be found less than for the clay product.

The cost of cement tile of course varies in different localities, depending largely upon the cheapness and accessibility of the sand, the cost of labor, the kind of equipment used, and the skill

shown in the arrangement and handling of the manufacturing plant.

The following figures are based on some rather short tests made by the Farm Mechanics Department of the Michigan Agricultural College. These tile were made on a machine adaptable to both hand and power operating, the mixing being done by hand. Two men were required to operate the machine to the best advantage. On this machine from 400 to 500 tile could be made per day of

ten hours, by hand power, and from 500 to 750 per day, using small gasoline engine for power. Not more than one-half to one horse power was required to run the machine. In any case it would be of decided advantage to use power, and if a large number are to be made a mixer could be devised which could be operated by power and thereby materially reduce the work connected with their manufacture. Making at the rate given above the cement and sand has to be mixed in comparatively small batches since no more should be mixed than can be used in a half hour.

All the figures given are for a four-inch tile having a nine-sixteenth-inch wall. No data was obtained on other sizes. The cost of the size given should give a fair notion of the cost of the other common sizes and furnish a basis of comparison with other kinds of tile. The proportions used were one to four of cement and sand, screened through a three-eighth-inch screen.

Cost of Material and Labor per Thousand by Hand Power.

4.3 bbl. cement at \$1.50.....	\$6.45
2.43 yds. sand at \$1.25.....	3.04
4.44 days labor at \$1.50.....	6.60

Total\$16.09

Cost of Material and Labor per Thousand by Engine Power.

4.2 bbl. cement at \$1.50.....	\$6.30
2.34 yds. sand at \$1.25.....	2.93
3.3 days labor at \$1.50.....	5.00
1 gal gasoline at 15c.....	.15

Total\$14.38

The rate of making in the above figures is computed at 450 per day by hand power and at 600 per day using an engine for power. It will be seen that the cost of making by engine power will run from one dollar and a half to two dollars less per thousand than by hand. It will also be noted that the items of cement and sand might each be much lower in some localities. In figures given by Hanson in "Cement Pipe and Tile," the cost of four-inch, proportioned one to four, is estimated at from \$12 to \$15 per thousand. In most cases, however, machines having a much larger capacity than the one for which figures are given above were used.

Mich. Ag. Col. H. H. MUSSELMAN.

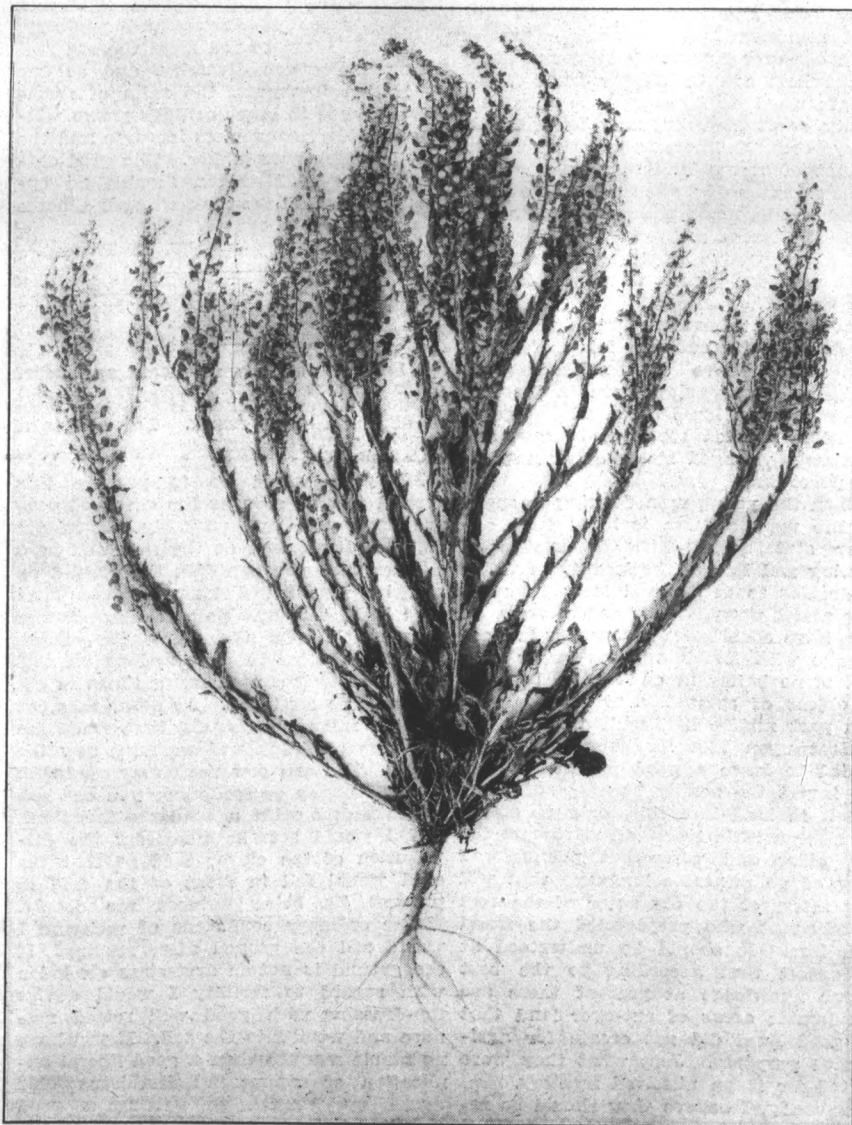
FARM NOTES.

The Increasing Weed Pest.

If weeds are a blessing in disguise, then the farmers of Michigan should consider themselves doubly blest in view of the increase of noxious weeds in our state. Each year the list of weeds is enlarged, largely through the purchase of impure clover and grass seeds, but to no small extent through the carelessness of the average farmer regarding them.

The accompanying illustration is made from a weed recently sent for identification by a Shiawassee county farmer. The specimen was submitted to Dr. Bessey, of M. A. C., who identified it as *Lepidium campestre*, (Field Peppergrass), a native of Europe that is becoming established in this state, as is already the case in parts of the east. As this weed is new to many sections of the state at least, hence this specimen, which is apparently an unusually healthy one, has been photographed for illustration. Other specimens have not the strong healthy branching characteristic of this plant, the plant varying from a single stalk to many branched specimens, like the one illustrated.

One characteristic of this plant is that the seeds usually germinate the latter part of the summer so that the plant is a fair size, often at the point of flowering, when winter comes on. It then lies dormant without being killed until spring, when it resumes its growth. On the other hand, many of the seeds do not germinate until spring they being later in coming into flower.



Lepidium campestre, (Field Pepper Grass). See "The Increasing Weed Pest."

Like many of our most troublesome weed pests, the seeds of this plant commence to ripen and fall before the observer is aware of the fact, and the fields containing a few specimens may thus become liberally seeded, requiring clean, cultural methods, involving a considerable outlay of labor, in their eradication. Digging or thorough cultivation to prevent the plants growing is recommended where this weed is found, and this is but one of the many weeds which should not be allowed to gain a foothold upon our farms.

There should be a more general awakening among Michigan farmers with regard to the encroachment of weed pests upon their lands. It is much easier to keep the fields free of new species of noxious weeds than to eradicate them once they have been introduced.

FARM NOTES.

Seeding Alfalfa in Beans.

How would it do to sow alfalfa right in with beans about the first of August, the beans planted in May and ground well manured? Beans will be pulled by hand.

Antrim Co.

G. T. G.

This plan of seeding alfalfa in beans may be successful under exceptionally favorable conditions just as the seeding of alfalfa or clover in corn may be successful in an occasional year. But it would not be a safe dependence since the success of the plan would depend very largely upon moisture conditions at the time and after the seed was sown. Any crop when ripening, draws heavily on the soil moisture and it would be useless to sow alfalfa or other small seeds so late in the season unless conditions were favorable for quick germination and rapid growth of the young plant. Even if no check occurred in their growth they would not get any too good a start before winter and the necessary traveling over the field in harvesting and drawing the bean crop would be an additional handicap to the young seeding. It would, in the writer's opinion, be a better way to seed the alfalfa with a spring grain crop of oats or barley, or sow with a nurse crop in spring or midsummer, although a trial of this method would add something to the sum of our knowledge regarding the growing of alfalfa in Michigan.

Lime-Sulphur Solution not Suitable as a Fungicide for Potatoes.

Since the comparatively recent introduction of the use of lime-sulphur spray as a substitute for Bordeaux mixture in orchards, many farmers have inquired about the practicability of substituting lime-sulphur for Bordeaux mixture in the spraying of potatoes as a preventive of blight. Up to this time there has been no authentic experimental data upon which an intelligent reply to the question could be based. Fortunately, however, a careful test of lime-sulphur solution for this purpose was made at the Geneva Experiment Station last year, which test proved the lime-sulphur solution to be harmful rather than beneficial to potatoes.

The plants in rows sprayed with the lime-sulphur were dwarfed by the fungicide, died early and yielded about 40 bushels less per acre than those planted in check rows which were not sprayed, while rows sprayed with Bordeaux mixture produced 100 bushels per acre more than the unsprayed plots. In this experiment the first row of each of five series was left as a check, the second row received Bordeaux mixture (6:6:50), the third row lime-sulphur solution (1:40) and the fourth lead benzoate, (1 lb. to 50 gals.) Each treatment was repeated six times as the season was a long one, and all rows were kept free from beetles by two applications of arsenate of lead. The dwarfing effect of the lime-sulphur was plainly evident by the middle of September and became very noticeable in October. The plants were smaller than those in the check rows, not only on account of the lack of foliage, but in height and diameter of stems. The plants sprayed with lead benzoate were not dwarfed, but their conditions was no better than that of the checks. No apparent burning of foliage appeared on any of the rows.

There was little in the way of fungous diseases to combat on the potatoes on which the experiment was conducted, as there was no late blight and only a very little early blight, but tip-burn seriously affected the plants of all rows except those sprayed with Bordeaux, and even these were injured to some extent. The Bordeaux sprayed rows were still partly green when frost first came, October 27, while most of the plants in the other rows had been dead a week or more at the time.

This was a remarkable test of the efficiency of spraying with Bordeaux mixture

in increasing the yields when fungous diseases were not especially prevalent, the long season giving the Bordeaux the best possible opportunity to exert its stimulating influence. In like manner the unusual number of applications may have intensified the injury from the use of lime-sulphur spray. However, the experiment would seem to show conclusively that lime-sulphur is not a satisfactory substitute for Bordeaux mixture in the spraying of potatoes for the prevention of blight, and also affords most conclusive proof that it is profitable to spray with Bordeaux, even in a season when there is no blight, to say nothing of the insurance value of such treatment in seasons when blight is prevalent and when the crop may be saved by such treatment.

Sand Vetch for Michigan.

Several inquiries have been recently received asking for information about sand vetch; whether it is a good pasture crop for different kinds of stock; whether it will make good hay for all kinds of stock and whether it is the equal of clover as a soil improver. The space required to answer all these queries in detail can be largely saved without detracting from the value of the information given by summing up the facts regarding this crop in a few words.

First, it is an annual, much like our fall sown grains in its habit of growth. Sown with rye in August it comes on and affords some good pasture in the fall, and makes a vigorous growth in the spring which may be again pastured, cut for hay or harvested after ripening and threshed as may be desired, or it may be plowed down as a crop for green manure, which is undoubtedly its best use in Michigan. As a pasture crop it has the disadvantage of furnishing only late fall and early spring pasture; as a hay crop it is more expensive to grow and probably would serve a less satisfactory purpose than our common grasses and forage crops; but as a legume to be used for soil enrichment on poor lands it seems well worth a careful trial, and perhaps it would be profitable to experiment with it for other purposes. But as a main dependence for hay or forage it is better to rely on the more common and better known crops, with the culture of which we are all familiar.

MICHIGAN'S CUT-OVER LANDS.

These lands are located here and there in practically every county in northern Michigan, including the upper peninsula. They differ widely in agricultural value, large areas being of no practical worth for farming purposes; others are fairly good and if rightly handled will yield remunerative crops, while among these cut-over lands may be found some of the best soil in all our great state. Nor is good soil confined to any one county or district, but may be found in every county where any considerable amount of stump land remains.

The selection of a site for a future farm should not be made without some knowledge of different soils, either on the part of the prospective buyer or some trustworthy person upon whose advice he may depend.

Development bureaus have done much to advertise the cut-over lands of Michigan. They have accomplished great good, but unscrupulous men in the real estate business have taken advantage of conditions created by these bureaus and grievously wronged many an unsuspecting purchaser.

When the young man desiring to spend his life upon a farm is lured from another state, with little knowledge of farming and less of the locality in which he decides to settle, and located by the wily agent upon a poor sandy forty, or if he have considerable money, is induced to part with it for a much larger area that is no better in quality, he becomes an object of sympathy. But when the man past middle life, with a family dependent upon him for support, is persuaded to leave a good job in the city and invest the scanty earnings of years of toil in land like this, only to starve out after a little time and retreat to the city, older and wiser but penniless, I know of no printable language that will fully interpret the character of the real estate agent who perpetrated the fraud upon him. It should be understood at the outset that according to the best of our knowledge at present there are considerable areas of cut-over land that the good Lord did not create for agricultural purposes. Just what they were created for is an unsolved mystery.

Personally, I believe they should be re-forested, providing a practical method, for accomplishing this work, can be dis-

covered, but the question of re-forestation is foreign to this discussion.

There are many thousands of acres of stump lands in Michigan nearly or quite as good as the best that await the coming of the industrious man in search of a home. It is to be regretted that in many cases, these lands have passed into the hands of real estate companies, who have put prices on them that make it hard for the prospective settler to get a foot-hold. But there are still plenty of places, where good lands can be bought at a reasonable rate. The cost of clearing will run all the way from \$5 to \$25 per acre, according to conditions. It often happens that the first crop of potatoes will furnish the money to pay for the clearing and the original cost of the land as well. There is a strong and increasing sentiment urging people back to the land. This is well but along with it must go agricultural instruction that will enable these home makers to care for the soil.

The men and women pioneering upon the cut-over lands of Michigan are performing a public service for they are enriching the state and enlarging the aggregate of its taxable property. While the means of moral and intellectual growth that are sure to follow in these newly organized communities tend to increase the influence for good in our commonwealth, but if these advantages continue the right methods of agriculture must obtain to the end that the productive power of the soil shall be conserved. I have traveled over thousands of acres of these lands and have often wished that I might tell the story of the advantages they offer in a way that our young men might hear and understand. As our systems become more and more complex we are multiplying hired men at a very rapid rate.

The hired man is essentially a dependent man. In the ideal citizen we find the largest measure of independence consistent with the spirit of co-operation. The farmer who tills his own farm is an independent man, true, working by himself without a sufficient sense of public obligation, he may be too independent, but the farmer who owns a farm large enough to support his family well and to educate his children, if he unite with his neighbors in the building of a good rural neighborhood, is a most desirable citizen, and last, but not least, his living is secure. The time will come within the lives of most of those who read this, when the young man who has a clear title to even 40 acres of good land in Michigan will be considered fortunate.

There can be no great general decline in the prices of agricultural products. The world must be fed from the soil and as our industries diversify, and as our population increases, the ratio of farmers to people in other callings grows wider and wider, consumers increase and the cost of living gets higher. The good cut-over lands of Michigan furnish an opportunity which the man without a home cannot afford to ignore.

Oceana Co.

W. F. TAYLOR.

SEEDING TO CLOVER AFTER OATS AND PEAS.

I have a plot sown to oats and peas. After cutting this I intend to sow the field to clover. Which is the best way to obtain a good result. The soil is a sandy loam.

Calhoun Co.

E. P. D.

My plan would be to prepare this ground just as soon as the oats and peas are harvested, and probably if you get right at it as soon as the oats and peas are removed you can disk the ground up and by repeated disking make a good seed bed. The stubble would not bother very much. On the whole it perhaps would be better to plow and roll it and then harrow it a good many times to get a firm, fine seed bed. As soon, then, as the fall rains come or any time when the moisture condition will warrant, sow the clover. You can sow the clover seed with a wheelbarrow or seeder, or you can use a grain drill with a seeder attachment, and I would set the tubes for the distribution of the clover seed so that the seed would fall in front of the drill to prevent its being covered too deeply. Under ordinary conditions of moisture I would roll the ground after seeding. If the ground is not in first-class condition with regard to fertility I would advise top-dressing with good well rotted manure and work into the soil. If you have no stable manure then a good liberal application of commercial fertilizer would assist very much in getting a good growth of clover.

COLON C. LILLIE.

-If You ARE A WOMAN

Read This

You know what it would mean to wash a dishpanful of sticky, greasy, milk-covered tinware twice a day the year around. You know that

cream separators which have "contraptions" inside the bowl can't possibly be "easy cleaning". You know that—no matter whether a manufacturer calls these "discs", "wings", "blades", "cores" or something else—they are the same trouble-making, work-producing contrivances and that they mean dirt and drudgery for the women on the farm. There is only one cream separator made without contraptions inside the bowl—only one machine that really can be cleaned easily and quickly. It's the SHARPLES TUBULAR SEPARATOR, and the smooth, easy-cleaning Tubular bowl is protected by U. S. patents which prevent any other manufacturer from using it. Read what Mrs. Chester D. Long, Lockwood, Mich., writes:

"If cleanliness is of any value (and it is of great importance in good butter making), the Tubular stands first. It is so easily cleaned, and cleaned well. Our old separator was a disk machine, and I was very glad to make the change to the easy-cleaning Tubular."

Call on our nearest agent and he will tell you that the oldest and largest separator factory in the world offers to let you try a Tubular at their risk on your own farm. Tell him how many cows you keep. He will bring the machine to your place, set it up and show you how to operate it, without obligation on your part, and let you decide for yourself which is the simplest, easiest cleaned and closest skimming of all cream separators. If you don't happen to know the name of our nearest agent, just drop us a postcard today and also ask for free Catalog 501. THE SHARPLES SEPARATOR COMPANY, West Chester, Pa.

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Absolutely sanitary conditions in the dairy mean money saved and made.

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Prevents Ticks.

KEEPS FLIES OFF

Cattle and Horses

and allows cows to feed in peace, making More Milk and More Money for you. A clean, harmless liquid preparation, applied with a sprayer. Keeps cows in good condition, and saves five times its cost in extra milk.

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If your dealer cannot supply you, send us his name and \$1.25, and we will deliver prepaid to your address a half-gallon can of COW-EASE and SPRAYER for applying. For West of Missouri River and for Canada, above Trial Offer, \$1.50.

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No. 64

THE DAIRY

CONDUCTED BY COLON C. LILLIE.

FOUNDATION FOR SILO.

I want to know how to build my silo wall. In order to get down on a level with my stable floor I will have to build on a ten-foot foundation. On that I will put 12x24-ft. stave silo. My wall will be built of stone as I have plenty of them. Tell me how thick to build it. Will it have to be reinforced? I am advised that an 18-inch wall is strong enough and that I should put my silo on the center of the inside 12 inches of the wall and plaster the silo from the shelf up, making it smooth, which will make the stone part smaller on the inside than the stave part, and also that I want a door frame set in the wall from the top down, and that an iron rod running from the door frame back in the wall a couple of feet will hold it. Do you think so? I thought one door in the wall in the center would make it stronger and would be enough. The wall will not be in the bank only about half way around. How thick should I have the cement on the bottom?

Cheboygan Co.

W. S.

These are exactly the same conditions which I had when I built my first silo. We had made an embankment so close to the barn, that when I built the silo I put it in a part of this embankment so that on all but one side we had a bank of earth, but on the west there was no such support. I simply excavated a place large enough for the silo; then we built a circular stone wall by digging a trench below the basement floor as a foundation for this wall. The wall needed no reinforcement or support where it went against the bank of earth, this being a splendid support, and we did not have to take very much pains in shaping the wall on the outside, but simply on the inside. On the side where there was no bank we made the wall a little heavier, 18 inches at the bottom and gradually drew it in until it was about 12 inches thick at the top. Since then I have removed the dirt from another portion of the silo, leaving no support to the stone wall which we built against the bank. I was afraid that it would not be strong enough to stand the pressure and so I put all iron hoop around the top of the wall, but for years this wall stood with a 28-foot silo above it and resisted all pressure. Perhaps it would stand but I did not want to risk it. I think it would be a good plan for Mr. S. to reinforce this stone wall. He can do so by using any old scrap iron that he has, or wire, or he can get new wire and simply lay this into the wall as he builds it up. Make the wall fairly level at intervals and then on top of the walls lay the wire or old scrap iron and then put on another layer of stone. This will reinforce it so that there will be no danger whatever.

In some ways the continuous doorway is very handy. You don't have to pitch the ensilage up at all. But you can make a stronger silo at less expense by having doors at frequent intervals, say every three feet, and then build across the silo between these doors. However, if you want a continuous doorway you can set up your studding for the doorway and then if you reinforce the wall with wire you can have the wire wrap around the timbers used for the door frame which will hold it even better than the iron rods suggested, though if the iron rods go back into the stone wall and are bent up at the ends, there would be no danger, I think. A floor in the bottom of the silo two inches thick, of good grout, will be sufficient. You might get along with a thinner cement than this, if the bottom is good firm clay, but while you are about it you might just as well put in one two inches thick and then there will be no question as to its sufficiency.

WINTER RYE FOR SILAGE.

I would like to know the value of winter rye as compared with corn for silage and just when to cut it for best results.

Wexford Co.

E. J. F.

Winter rye is not to be compared with corn for silage. Corn is in an entirely different class. In the first place you can raise a good deal more food to the acre with corn, and it makes better ensilage. Rye is not a first-class food anyway. Cattle do not like it very well. It has a rank flavor. Of course, if you have the rye and want to save it in this way it can be done. But rye is a hollow stemmed plant and you have got to take considerable pains in packing it and weighting the top or it will not settle

down sufficiently to exclude the air to preserve it. That is all the precaution that needs be taken, but do not think that a ton of rye silage is as good as a ton of corn silage, for it is not. The rye should be cut when it is in the milk before the kernels get hard. That is the stage of development of the plant when it contains the largest per cent of digestible nutrients.

SICK COWS ON PASTURE.

Have been pasturing cows on low land. Every few days a cow will fail to produce her usual amount of milk and will dry up almost completely. Will not eat much for several days, and seem constipated. First one took sick nearly three weeks ago but is much better now. However, she has not come back to her milk. Can you tell me what is wrong and what to do for them? They are not getting any grain at present.

Oakland Co.

E. A. H.

This is a case that requires the services of a veterinarian. It is one that cannot be answered at a distance, without knowing more about it, and therefore I cannot give any information that would be of any particular value. I should have a local veterinarian come and make an investigation. He could discover what is the matter with the cows or give you an idea as to what might cause it. The probability is that the cows have eaten something that does not agree with them. Perhaps wild turnips or some other weeds are in the pasture lot. Or it is barely possible that the sudden change from the winter feed to an entirely grass diet and taking away the grain has put them out of condition. I am very careful in changing the cows from a winter ration to a grass ration and we do it gradually. At first we never leave them in the pasture only a short time and we try to get them to eat hay as long as they will without wasting it. We do not take the grain away from them entirely during any season of the year. Certainly if I had any more troubles I would call in the local veterinarian and have him make a careful diagnosis.

WASHING CREAM BOTTLES.

Do you know of any good device that will remove all the cream from milk bottles?

Washtenaw Co.

B. A. B.

There is only one way to wash milk bottles and cream bottles and do it successfully. In the first place, rinse the bottles as soon as possible after the milk or cream is removed, with water so as to remove the cream or milk before it hardens on the bottle. Next wash the bottle in good tepid water containing some kind of washing powder alkali which will cut any grease remaining. Then rinse again and sterilize. If you haven't a special sterilizer rinse them in boiling hot water. Get them hot enough so that they will dry without wiping. You may say everybody knows this, and that is so, but it is the only way to do. This work can be done by hand or it can be done by modern machinery. You can get a bottle washer that will assist very much, and this bottle washer can be purchased of any of the leading dairy supply companies. You can get a sterilizer of any of these houses and if you are in the business on a large enough scale it will pay to do this. Of course, with only a small number of bottles to wash it would hardly pay to make the necessary investment.

SALT FOR DOMESTIC ANIMALS.

Some farmers do not realize the importance of providing plenty of salt for all the different animals kept on the farm. Experiments have been conducted at some of the stations, by depriving a certain number of cows of salt for a short time, and they showed a marked falling off in milk, and when the same cows were given a regular supply of salt, the milk was soon increased to normal. If salt is kept where each animal can have daily access to it they will only eat what they need to keep them in good health; but if deprived for any length of time, some will eat so much at once as to be injurious. This is very apt to be the case where salt is supplied at intervals. It is a fact that some animals eat and seem to require double the amount of salt that others do. I have one horse that eats over one quart of salt every week, which is double the amount the other two eat. It is a very good plan to make a box in one corner of the grain manger and keep this filled with salt so the horse can eat just what he needs every day. It is the same with cows, there should be some way provided so they can have daily access to salt

DE LAVAL CREAM SEPARATORS

The Best and Most Profitable of All Summer Farm Investments

A DE LAVAL Cream Separator is the best and most profitable of all farm investments at any time—and even more so in summer than at any other time.

The waste of butter-fat without a cream separator is usually greatest during the summer months and the quality of cream or butter produced without a separator the most inferior.

Moreover, the bulk of milk in most dairies is greatest at this season, so that the loss in quantity and quality of product counts greatest. It must count more than ever this year with the extremely high prices prevailing for cream and butter of good quality.



A DE LAVAL cream separator not only enables the production of more and better cream and butter than is possible by any gravity setting process but as well by any other separator.

Then there is the great saving of time and labor accomplished by the separator in the handling of the milk and cream, which counts far more in summer than at any other time and alone makes the separator a profitable investment.

In this respect again the DE LAVAL excels all other separators by its greater capacity, easier running, greater simplicity, easier cleaning and greater sanitation.

All of these considerations are points which every DE LAVAL agent will be GLAD to DEMONSTRATE and PROVE to the satisfaction of any prospective buyer of a cream separator.

Why not look up the nearest DE LAVAL agent at once, and if you don't know him write us directly, as below.

THE DE LAVAL SEPARATOR CO.

NEW YORK CHICAGO SAN FRANCISCO SEATTLE



Successful Dairying

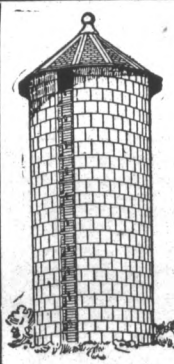
Successful dairying depends largely upon the solution of the Cream Separator problem. If you solve it by buying the BEATRICE your confidence in dairying will be strong, your profits larger, your work easier and more profitable, your success greater.

Three sizes—550 to 600 lbs. capacity, \$55; 750 to 800 lbs., \$65; 950 to 1000, \$75.

The BEATRICE saves and serves. Our free booklets show you how. We'll send them as soon as you write, and tell you where to buy.

Beatrice Creamery Co.
Dept. L, Chicago, Ill.

BEATRICE Cream Separator



The Silo in Modern Farming—In these days of intensive farming, ensilage as feed can no longer be ignored. Its use is an economy. But the silo itself must not be a source of continual expense.

THE IMPERISHABLE SILO

is guaranteed. It is storm-proof, decay-proof, no painting, no waste of time and money in upkeep, no hoops, no injurious moisture. Is simple in construction. The first cost is the last. The Imperishable is made of Patented Vitified Clay Blocks which are non-absorbent and last forever. They resist swelling, shrinking and rotting—a continual expense with other silos.

Write at once for catalog.

Thirty Factories throughout the United States.
NATIONAL FIRE PROOFING COMPANY
Agricultural Department A, HUNTINGTON, INDIANA.

in the stable. Where it is the practice of giving the cows salt perhaps once a week, and throwing it out somewhere on the ground, they will not do near as well, and then, too, where salt is given to cows in this way it is very apt to be forgotten and cause suffering as well as loss. It will do very well to salt sheep in this way, when running in pasture, but it is not a good way to manage with cows and horses.

SUPPLEMENTARY SUMMER FORAGE.

Many dairymen are already a little worried as to their roughage supply for the coming year. The hay crop is fairly promising, judging from the federal crop report, but the shortage this past year and the natural increase in the demand will in all probability make prices high for the season of 1912 and 1913. An unusual number of silos are being erected but a very large percentage of dairymen have not yet provided themselves with this cost-reducing institution, also scarcely none of those having silos have any silage left in them. Pastures were turned into before they were well started for the reason that hay was high and scarce, and the winter feeding season much longer than in normal years. These facts combine in many instances to cause dairymen concern.

There is yet time to provide against a shortage for this season by growing some annual to supplement the pastures. But there is no time to waste if ground is to be prepared. Many have already sown crops for this purpose and others will utilize crops sown to be used in some other manner. Corn, especially some of the flint varieties, is a valuable plant to sow at this season and later as are also barley and rye. Oats and Canadian peas make an excellent supplementary crop but should go in the ground early to give satisfactory results. Millets can be sown any time from May to August, grow quickly and yield heavily.

While immediate needs should receive the major part of our attention, it is right and proper that we should look forward to other years and establish a system of cropping that will prevent the recurrence of a situation like that confronting many of us this summer. The equipment and crops best adapted to such a system cannot be provided when a shortage of feed is upon us. They must be planned for in advance.

The elements of such a system include a silo, the production of corn to convert into silage, and clover or alfalfa, with a preference for the latter crop where it can be successfully grown. Being provided with a large amount of silage one is immune to the dangers accompanying a shortage of pasture. Silage well put up will keep almost indefinitely and has all the merits of good pasture as a feed. Clover and alfalfa supply the roughage with an additional percentage of protein, thus reducing the quantity of protein needed in the concentrates. With these provided one has established a system that will do away with worry over the summer pasture problem.

ILLUSTRATES THE EFFECTIVENESS OF WISCONSIN'S DAIRY LAWS.

An unexpected condition has been uncovered as the result of the enactment of an ordinance by the common council of Marquette, Mich., providing for the compulsory tuberculin test of all cattle whose milk is sold in the city. It has been learned by the local milk and dairy inspector in his work among the herds supplying the city that an unusual number of affected animals are present. Inquiry as to where the cows were secured shows that a very large per cent came from Wisconsin. In that state stringent laws have been enacted which provide for a tuberculin test and which prevent the shipment of tuberculin animals from one part of the state to another. Marquette being so handy by makes that point an excellent one to consign suspicious animals to. Hence the farms along the border are over-run with tubercular cows.

Speculators are not taking hold of the butter trade as is their manner at this season. The general complaint is that prices rule too high and this in the face of an abundance of forage for the dairy animals. The output of creameries is heavy and receipts at large butter markets are approaching and even exceeding in occasional instances, former records.

Of the better grades of butter there appears to be a shortage which stimulates a firm demand for such kinds, but this feeling is not general to the trade.

26,791 Dairymen

Are Changing from Other Separators to the

United States Cream Separator

Read the experiences of two of them:

While using a ----- Separator, Mr. John Smith set up a No. 15 United States Interlocking Separator for trial. After using it I found it made smoother cream and made me more and better butter than the other machine. It is easier to turn and easier to clean. I can clean it in one minute and can say none too much in praise of it.

M. L. HUGGINS, Lew Beach, N. Y.

After using a ----- separator for 31-2 years I think your Interlocking U. S. bowl is surely all right. My wife and daughter are pleased with the washing and care of the U. S. The No. 15 U. S. turns but very little harder than the No. 12 ----- and separates almost twice as fast.

Glad I bought the U. S. C. E. McCLURE, Mellott, Ind.

A free trial will convince you. Ask our local agent.

Price \$25 and up. Old separators taken in exchange.

VERMONT FARM MACHINE CO.,
Bellows Falls, Vt.
Distributing Warehouses everywhere.

Just One Silo in All the World!

Has a Base Anchor and an Inner Anchoring Hoop—the Saginaw Silo. The Saginaw Base Anchor is absolutely new on 1912 Saginaw Silos. Roots Silo to its place. No fear your Saginaw will ever blow down. Saginaw Inner Anchoring Hoop at top makes it impossible for staves to loosen or fall in. Before you buy any Silo, be informed about these greatest improvements on Silos. The Saginaw also has the All-Steel Door Frame, adding strength and making easiest working doors. Four big, modern factories make the scientific Saginaw. We have a FREE BOOK for you, showing the great Saginaw Silo manufacturing plants inside and out; also facts on feeding silage. Write today to factory nearest you for Circular Q

FARMERS HANDY WAGON COMPANY
Saginaw, Mich. Minneapolis, Minn. Des Moines, Iowa Cairo, Ill.

\$15.95 AND UPWARD

AMERICAN SEPARATOR

SENT ON TRIAL, FULLY GUARANTEED. A new, well made, easy running separator for \$15.95. Sifts 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.**

MAKES BUTTER IN THREE MINUTES

The Norcross Improved Butter Separator is without comparison. Makes butter out of Sweet or Sour cream by air. Absolutely Guaranteed. A sanitary marvel, the wonder of the age. \$6 up. Send for catalog.

Agents Wanted

Liberal terms to responsible men and women in open territory. High-grade proposition.

Make \$30 Week Easily

By applying energy and working systematically. Sells at sight. Child can operate. Send for terms today.

AMERICAN CHURN CO., Dept. 11
Union Bank Building Pittsburgh, Pa.

CHURN FREE

—To introduce the CHALLENGE—
First person in each township. Guaranteed to make first class butter from milk or cream in 2 to 7 min. 1 to 10 gal. capacity. Write today sure. Get one free. Agents wanted.

MASON MFG. CO., Dept. M, Canton, Ohio

For Sale

Horses, cattle, sheep, swine, poultry and dogs, nearly all breeds. Sires exchanged. South West Michigan Pedigreed Stock Ass'n., David Woodman, Sec'y., Treas., Paw Paw, Mich.

FRESH COW WANTED

Holstein or Guernsey thoroughbred. BARNEY NEHLS, 248 Brush St., Detroit, Michigan.

BREEDERS' DIRECTORY.

CATTLE.

ABERDEEN-ANGUS.

Herd, consisting of Trojan Ericks, Blackbirds and Prides, only, is headed by Egerton W. a Trojan Ericks, by Black Woodlawn, sire of the Grand Champion steer and bull at the International in Chicago, Dec., 1910. A few choice bred young bulls for sale.

WOODCOTE STOCK FARM, Ionia, Mich.

AYRSHIRES

—One of foremost dairy breeds; young bulls and bull calves for sale. Berkshire swine. All pure bred. Michigan School for Deaf, Flint, Mich.

FOR SALE

Registered Guernsey Bull, 9 months old. Choice individual. E. T. SPENCER, R. No. 23, Portland, Mich.

Am offering a yearling May Rose Guernsey bull

for sale. ALLAN KELSEY, Lakeview Michigan.

WE have a few good Holstein Friesian Bull

Calves from 6 to 8 months old. Prices and individuals right. Gregory & Borden, Howell, Mich.

7 Months Holstein Bull Calf

very large for age, nearly white, his dam a daughter of Lillith Pauline De Kol Count, his sire a son of the King of the Pontiacs from one of Hengerveld De Kols good daughters. Have others.

ED. S. LEWIS, Marshall, Michigan.

A 24-lb. Bull

Have Bull Calves out of—
13, 20, 23, 24-lb. Cows A. R. O.
By a 24-lb. Bull.
My herd averages 19 lbs.
If you want this kind write

BIGELOW'S HOLSTEIN FARMS,
Breedsville, Michigan.

HOLSTEINS

I can please any body with a service bull, bulls from one to ten months old, sired by Johanna Concordia Champion. Also cows and heifers bred to him. Write me for anything you want in Holsteins.

L. E. CONNELL, - Fayette, Ohio.

3 \$200 Holstein Bulls.

Any breeder in Michigan looking for this kind? If so see their pedigrees before buying.

LONG BEACH FARM, Augusta, Michigan.

HOLSTEIN BULL

calves sired by best son of daughters in advanced Registry, out of a grand daughter of De Kol 2nd Butter Boy 3rd, over 100 daughters in advanced Registry. A beautiful calf of choicest breeding. Price only \$50.

C. D. WOODBURY, Lansing, Michigan.

"Top-Notch" Holsteins.

Choice bull calves from 2 to 6 mos. old, of fashionable breeding and from dams with A. R. O. records, at reasonable prices. Also one 2-year-old bull, fit to head a good herd.

MCPHERSON FARMS CO., Howell, Michigan.

FOR SALE—6 yearling Holstein Friesian

Bulls, 2 A. R. O. bred. Some cows. Also bull calves, 34 year a breeder. Photos and pedigrees on application. W. O. JACKSON, South Bend, Ind., 719 Rex St.

Holstein Bull Calf

dropped Feb. 17, 1912, nearly white, 37 1/2 lb blood Hengerveld De Kol dams: record Senior 2-year-old, 18.37 lbs. butter.

GEORGE E. LAPHAM, R. 8, St. Johns, Mich.

Purebred Registered HOLSTEIN CATTLE

The Greatest Dairy Breed
Send for FREE Illustrated Booklets
Holstein-Friesian, Assn., Box 164, Brattleboro, Vt.

REGISTERED HOLSTEIN CATTLE

Bulls all sold. Herd headed by Hengerveld Coin Pieterje LOYFD F. JONES, R. F. D. 3, Oak Grove, Mich.

Big Bull Bargain

Choice registered ready for service. Hatch Herd, Ypsilanti, Mich.

YPSILAND FARMS BULL CALVES.

Choicest Konradyke, Dekol and Hengerveld breeding. \$50.00 to \$100.00 Official Pedigrees on request.

COLE BROTHERS, Ypsilanti, Michigan.

JERSEYS AND DUROC JERSEYS FOR SALE.

A few high class boars from such champion boars as

Orion Chief, Instructor, and King of Illinois. Also a few bred sows, grey bulls, cows and heifers.

BROOKWATER FARM, ANN ARBOR, MICH., R. F. D. 7.

Lillie Farmstead JERSEYS

Bulls ready for service, also bull calves and heifer calves. Cows all in yearly test. Satisfaction guaranteed.

COLON C. LILLIE, Coopersville, Mich.

MARSTON FARM—JERSEY CATTLE.

T. F. MARSTON, Bay City, Michigan.

NOTICE

I offer for sale a fine three-year-old Jersey cow. Also two young bull calves at bargain prices.

O. A. TAGGETT, R. No. 1, Caro, Mich.

Jersey Cattle For Sale.

C. A. BRISTOL Fenton, Michigan.

BUTTER BRED JERSEY BULLS FOR SALE

CRYSTAL SPRING STOCK FARM, Silver Creek, Allegan County, Michigan.

RED POLLED

Choice lot of females any age, also some bull calves.

J. M. CHASE & SONS, Ionia, Michigan.

RED POLLED BULLS FOR SALE

—from good strains. JOHN BERNER & SON, Grand Lodge, Mich.

DAIRY BRED SHORTHORNS

—Milk strain, beef type. Stock for sale. Cash or good note.

J. B. HUMMEL, Mason, Mich.

SHEEP.

Oxford Down Sheep

—Good Yearling Field for sale. I. R. WATERBURY, Highland, Michigan.

Reg. Rambouillets

—Wish to close out both sexes. All ages, low price. Farm—2 1/2 miles E. Morrice, on G. T. R. R. and M. U. R. J. Q. A. COOK.

HOGS.

Durocs and Victorias

—Young sows due Mar. & April. Bred to 1st prize and champion boar. Priced to move them.

M. T. STORY, Lowell, Mich.

BERKSHIRES

—Two Sept. Boars and 2 Sept. gilts, will do to breed for fall farrowing, at Farmer Prices.

A. A. PATTULLO, Deckerville, Mich.

BREKSHIRES

—2 fancy gilts, bred, at \$35. Boars serviceable, \$25 and up. Am booking orders for spring pigs. Elmhurst Stock Farm, Almont, Mich.

Bred Berkshire Sows and Service Boar.

—Best breed. Magnificent specimens. Very prolific. Bargain prices. ROUGE MONT FARMS, Detroit, Michigan.

BERKSHIRES

Weaned pigs either sex \$35 two for \$25; bred gilts \$35; bred sows \$50, registered and transferred. Excellent breeding. Choice individuals.

C. C. COREY, New Haven, Michigan.

Improved Chesters

—Spring pigs, either choice young boar and a few sows bred for early fall farrow.

W. O. WILSON, Okemos, Mich. Both phones.

O. I. C's Special Prices on spring pigs and service males,

also fall pigs 300 to pick from. Shipped on approval.

ROLLENG VIEW STOCK FARM, Cass City, Michigan.

O. I. C. SWINE

—Males weighing 200 lbs. each. Also a few very choice gilts, bred for June farrow.

Geo. P. Andrews, Dansville, Ingham Co., Mich.

O. I. C.

Extra choice bred gilts, service boars and spring pigs, not akin from State Fair winners. Avondale Stock Farm, Wayne, Mich.

O. I. C's

—All ages, growthy and large, sows bred. Males ready, 100 to select from. Attractive prices on young stock.

H. H. Jump, Munith, Mich.

O. I. C's

I have some very fine and growthy last fall pigs, either sex, males ready for service now, pairs not akin.

OTTO B. SCHULZE, Nashville, Mich., half mile west of depot.

OUR Imp. Chester Whites and Tamworth swine won

245 1st at Fairs in 1911. Service boars, also sows bred for spring farrow of either breed that will please you in quality and price.

Adams Bros., Litchfield, Mich.

O. I. C.

swine and Bull Rock cockerels of right type, best of breeding, price way down for quick sale.

G. D. SCOTT, Quimby, Mich.

O. I. C.

Choice spring pigs, by "Frost's Challenger" (2331.) Write for prices.

GLENWOOD STOCK FARM, Zeeland, Mich.

O. I. C's of superior quality.

Service boars, gilts, spring pigs. No akin pairs. Also Bull Rock eggs \$1.50 per lb.

Fred Nickel, R. 1, Monroe, Mich.

O. I. C.—Orders Booked For Spring Pigs.

C. J. THOMPSON, Rockford, Michigan.

O. I. C's

of March and April farrow shipped on approval or c. o. d.

OTIS GREENMAN, R. 4, Bellevue, Eaton Co., Mich.

O. I. C. SWINE

Write me for price on Spring Pigs, pairs and trios, not akin. Have a number of service males of good type. Write me describing of your wants.

A. J. GORDEN, R. No. 2 Dorr, Mich.

Duroc Jerseys

—Sows bred for May and June, Spring pigs. I pay the express.

J. H. BANGHART, Lansing, Mich.

DUROC-JERSEY SOWS

bred for July and August farrow. Choicely bred spring pigs. Prices reasonable.

JOHN McNICOLL, North Star, Mich.

DUROC JERSEYS

—10 Fall and ready for service. Prices right for 10 days. Write or come and see.

J. C. BARNEY, Coldwater, Mich.

SERVICE BOARS

Duroc Jerseys for sale and Fall pigs, (either sex) sired by W's Choice Rule No. 3075. Prices reasonable. Write R. G. VIVIAN, R. 4, Monroe, Mich.

Duroc Jerseys For Sale

—Service Boars, bred sows and Spring Pigs either sex. Pairs not akin.

M. A. BRAY, Okemos, Mich.

CLOSING OUT

Butler's Big Type POLAND CHINAS. A bigger, better and more prolific type. 10 nice, big sows, bred for June, July, August, September at \$25 each, f. o. b. You had better order one at once.

J. C. BUTLER, Portland, Michigan.

POLAND-CHINA SWINE

Bred for September.

R. W. MILLS, Saline, Mich.

Big Smooth Poland China Hogs

from large sires, either sexes, at reasonable prices.

ALLEN BROS., Paw Paw, Mich.

Poland Chinas

—Bred from large type. Stock all ages, both sexes, at Farmers prices.

W. J. HAGELSHAW, Augusta, Michigan.

LARGE TYPE P. C.

—Largest in Mich. Come and see greatest herd of big, prolific P. C. in state. Sows avg. 10 pigs to litter. Free livery, expenses paid if not satisfied, order early and get choice. Prices reasonable, quality considered.

W. E. Livingston, Parma, Mich.

BIG TYPE

Poland China fall and Spring pigs, sows bred, Dairy bred Shorthorn bulls and calves. Prices low.

ROBERT NEVE, Pierson, Mich.

15 Poland China Sows

bred for spring litters. Will ship c. o. d. priced to sell.

WM. WAFFLE, Coldwater, Mich.

POLAND CHINAS

—Young sows bred for April farrow. Extra good fall pigs, either sex.

L. W. BARNES & SON, Byron, Shiawassee Co., Mich.

Big Type P. C. Sows

bred to Big Bone Junior.

A. A. WOOD & SON, Saline, Michigan.

Mulefoot Hogs

—30 SOWS and GILTS bred. Also pigs not akin. Boars all ages.

G. C. KREGLOW, Ada, Ohio.

For Sale, Yorkshire Gilts

—Bred to farrow the latter part of August. Also pigs, both sexes. WATERMAN & WATERMAN, Meadow Land Farm, Ann Arbor, Mich.

Lillie Farmstead YORKSHIRES.

A few choice Gilts bred for September farrow, good ones. Spring pigs, either sex, pairs and trios not akin. Satisfaction guaranteed.

COLON C. LILLIE, Coopersville, Mich.

LIVE STOCK

SELECTION AND MANAGEMENT OF THE BREEDING BOAR.

The selection of a suitable breeding boar is a different problem because he represents so much of the breeding power of the herd. His pedigree is more carefully studied and his results more closely noted than that of the sows with which he is mated. A mistake made by many inexperienced breeders is that of buying a high-priced breeding boar and depending upon his blood lines and individual qualities to sell their pigs for a long price. Unless a man has a lot of high-class, well-bred sows to breed he should not pay a long price for a breeding boar.

If possible select a breeding boar that has been tried and proven a good sire. It is safer to select him at his home, in his normal condition and with his working clothes on. It is much easier to determine the value of a breeding animal when he is in his normal condition than when his defects are covered with a blanket of fat. Then again, there are many buyers looking for show-yard winners and you will often be compelled to pay more money for a prize winner, than an equally good animal will cost if purchased in his normal condition. Show-yard honors have value but there are many prize winners that never prove valuable when put to the test in the herd.

Now and then some unknown breeder may breed and develop a prize-winning animal, a phenomenal individual, but not what we would call a well-bred animal from the breeder's standpoint, although when fitted by an expert he is a living picture of harmony and beauty. Such a sire is only deserving of limited honors and occupies about the same place in the history of the breed as a prize barrow and would soon be cast aside. If we used such a sire in our herds we would introduce an inharmonious force of affinities which would ruin the results of years of systematic breeding which we have practiced to control the type of the animals in our herds.

In some rare cases a boar that is himself faulty as an individual may prove nearer perfection as a sire and produce more uniform pigs than some of the more perfect individuals of the breed, even though bred to inferior sows. This shows that we should not always strive at outside appearances at the expense of transmitting the inherent qualities of the breed to the progeny. The sire that is prepotent, that has the ability to stamp his individuality upon his progeny, is what we are all striving for. He is a link in the chain of creation which is transplanting and perpetuating type and reforming some of the warring affinities that are battling for supremacy. He is sending out into the world progeny that are emblems of beauty and uniformity, nature's choicest gift to the breeder of pure-bred swine.

The boar should be an outstanding individual, possessing all the markings characteristic of the breed. He should be of good size, neat form and stylish appearance and have plenty of constitution and vigor. If he will not bear a square look from in front, pass him on. His head should be short and fine, eyes intelligent and kind. His hair should be fine and silky; neck broad and full on top. He should be compact, smooth and well fleshed down on forelegs, with strong, slightly arched back, broad and even. His loins should be full and smooth and he should have well-sprung ribs and large, roomy chest; a well-rounded rump with tail set well up on the top; long, deep, well-rounded hams from points down to hocks; long straight and deep sides without wrinkles; straight and well proportioned bottom line; strong, short legs set well apart, one at each corner; short and neat pastern and good tough hoofs.

He should be able to beget good sow and male pigs. Some think it necessary to keep two boars, one to get good sow pigs and one to get good boar pigs. The right kind of a sire should get both sow and boar pigs. He should be well fed and treated kindly but firmly at all times. The appearance of the ill-favored, poorly fed breeding boars has been a curse to the hog business and has kept many men from investing in pure-bred stock. When we are fortunate enough to secure a good sire that has come down to us through a number of generations of creditable ancestors his value is far beyond computation in money.

Many excellent breeding boars are sold

by well-known breeders to some misguided victim of his teachings and for lack of nourishing food and proper care pass into oblivion. They are placed in some old, poorly-ventilated, damp pen and kept there the year round with no yard or pasture to exercise in and by the time they should be in the prime of life they are ruined by excessive service, lack of good food and exercise. Give the breeding boar the run of a large yard with a good strong fence around it and away from the rest of the hogs. Teach him that he is of some importance and do not salute him with a kick or a club every time you go near him, or he will suspect you every time he sees you coming, and be waiting for a chance to get even.

His disposition will be in a large measure, just what you make it and you may rest assured that he will not show fight every time you go near him unless he thinks he has a cause. It is not best to get too familiar with him or give him a chance to get you in a corner or tight place. The average boar is not such an ugly animal as many appear to think. Do not deny him his feed, but give him enough to keep him in good breeding condition; for skin and bones with the best of individuality and pedigree cannot beget good, vigorous pigs. When the herd is reaching perfection the greatest care must be exercised in the selection and care of breeding animals to keep them from going back.

The further removed the animals are from their natural habits and conditions the harder it is to prevent them from retrograding toward their natural conditions. Thus pure-bred animals will require better care and more liberal feeding than scrub animals. They have been reared under artificial conditions and have become accustomed to artificial environments and feeds. Do not allow the breeding boar to become fat while not in service. Succulent feeds and pasture during the warm months, and roots in winter, will prove better than grain to keep him in good breeding form. As the breeding season approaches his rations may be increased and some nitrogenous feed supplemented with his regular ration until he is getting all that he will eat with a relish. Middlings, bran, oil meal, ground packers' tankage are all good feeds for a boar during the breeding season. Ground oats are the best grain feed and will stimulate the breeding qualities of all animals when they are mixed with their rations.

Manage his food so that he will not lose flesh during the breeding season. The drain on a boar during the season of breeding 50 or 60 sows is severe and it will require plenty of good feed and careful management to get the best results. When not in service, plenty of exercise is essential even if against his inclinations. If he does not exercise it is impossible to keep up well-developed muscles and general thrift and vigor. The man who gives his breeding boars good care has solved one of the most important single factors in the business of breeding high-class swine.

New York. W. MILTON KELLY.

FEEDERS' PROBLEMS.

Rye as a Ration for Growing Pigs.

Will you tell me whether rye makes a good winter ration for growing pigs? Or would it be better to sell my rye and invest in other feed?

Clare Co.

J. B.

Under certain market conditions rye is a profitable feed to use for growing and fattening hogs, but under present conditions this would hardly be the case. At present values, rye is about as costly a feed as fine middlings and the latter is a much more economical grain for growing pigs than rye meal fed alone. When the pigs get older so that a ration with the nutritive ratio of rye would be more suitable for them corn would be a much cheaper feed to use at present prices, and corn contains about the same ratio of nutrients as rye, and in addition is a more palatable feed for pigs. It would thus be more profitable to sell the rye crop and depend upon other feeds for a winter ration for the growing pigs.

Raising Pigs Without Milk.

Kindly advise me how to raise pigs without milk.

Wayne Co.

P. A. R.

There is no doubt but that one can raise pigs more profitably with skim-milk as part of the ration than without it, although it is entirely practicable to raise pigs without skim-milk with a proper combination of feeds. There is no grain more suitable as a pig feed than fine wheat middlings. This contains the needed nutrients in just about

the right proportion for the pigs, and a slop made from middlings will be better adapted to the young pigs' needs than any other one grain feed that could be given. Of course, green forage should be available at this season of the year and if a run of grass is not to be had some clover or other green feed should be cut each day and fed as a part of the ration. Some ground oats from which the hulls have been sifted will add variety to the ration for the young pigs, and later a little corn can be given, and if it can be secured a small amount of tankage may be profitably fed with the corn. Otherwise, a little oil meal will serve an excellent purpose. Cleanliness in feeding young pigs is an important factor in their growth, and variety in the ration is essential to rapid growth. A little judgment used in feeding them will add to the profit of the feeder.

LIVE STOCK NOTES.

E. G. Tiller, prominent in farming and feeding affairs in Fremont county, Iowa, and a neighbor farmer and feeder, have contracted the refuse of a big canning factory in his town and will build silos. He believes it will make a fine and cheap feed for cattle. Speaking of silos, Mr. Tiller says: "The long drought of last summer and the severe winter following have operated to awaken wide interest in the silo, and if farmers will build silos this summer and fill them in the fall they will be independent of drought, hard winter weather and feed scarcity. The men who had silos last winter were not compelled to dig feed out of snowdrifts and haul roughage long distances over rough roads. They had their corn stored in a handy place in the shape of silage, which could be easily fed in the worst of weather. The silo owner had a cheap feed that can be used with good results at any time of the year."

Alaska farmer-stockmen are finding the hardy breed of Galloway cattle splendidly adapted for that far northern cold country, and these breeders are being imported there. "The prohibitive cost of transporting dressed beef there renders it absolutely necessary that animals that will thrive should be raised for beef."

Official figures published by the national bureau of statistics show that exports of provisions from the United States for the ten months ending April 30 last underwent gains of 81,000,000 lbs. of lard, 61,000,000 lbs. of bacon, 47,000,000 lbs. of hams and shoulders and 6,000,000 lbs. of pork over the exports for the corresponding period a year ago. During the same period exports of fresh beef fell off 20,000,000 lbs., and decreased exports of cured and canned beef took place.

A prominent sheepman of Montana estimates that not over 3,500,000 head of sheep will be sheared this spring in that state, as compared with 7,000,000 in the palmy days of the sheep industry. He says the Wyoming clip will not be more than 50 per cent of that of a year ago. When it is considered that Montana and Wyoming are the two largest wool growing states in the Union, the importance of these facts will be appreciated. Prominent Montana sheepmen are holding out for 20c per pound for their clips.

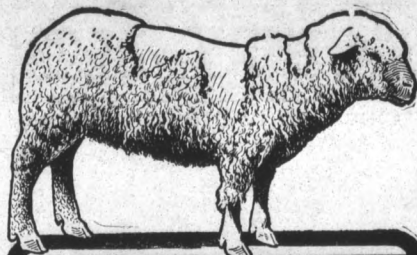
Advices from various quarters speak of the increasing popularity of silos, and large numbers are being erected by farmers. It is the most economical way of fattening live stock, and by use of ensilage farmers are finding that it does pay to raise well-bred steer calves after all. The silo is a means of materially lowering the cost of beef production, and it has been demonstrated that dry cows or steers may be wintered on rations of silage and straw or else silage and small quantities of cottonseed meal and make satisfactory gains in flesh without being fed any corn or hay.

Bernard H. Heide, general superintendent of the International Live Stock Exposition at Chicago, who has made a careful personal investigation of the existing cattle conditions in Kansas, reports that he found the pastures in the Flinthill regions of that state as good as he ever saw them, and pastures are well stocked with cattle. He found that the cattle feeding industry is now being carried on mainly by large interests, and he observed that nearly everywhere he went many of the smaller feeders who in former years had a few car loads of cattle on grass are now practically out of the business. Mr. Heide says: "In the feed lots of Kansas the situation is different from that affecting the pastures. There is a small number of cattle on full feed now, and the prospects favor a continued small crop through the summer, though the cattle on feed are doing well, the weather having been favorable."

About 15,000 head of two and three-year-old Texas cattle have been shipped into Wyoming recently, the range being reported in fine shape. Two years ago the Wyoming ranges were credited with carrying 5,500,000 sheep and nearly 900,000 cattle. Recently it was stated that there were less than 3,000,000 sheep in the state and fewer than 600,000 cattle.

Extra choice milch cows always command high prices, even at such times as the general market is in the dumps, as has been the case recently. The other day a big, fancy Durham cow was sold in the Chicago stock yards for \$90, but she was a rare exception to the regulation market cow of extra grade, this class selling around \$70@75, with not many late transactions higher than \$85. Sales have been mainly around \$40@60. Backward springers are wanted now, and forward ones are meeting with slower sales.

Iowa stockmen have imported a good many high-grade Belgian draft stallions and mares this year, one importation embracing 40 stallions and mares.



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POULTRY AND BEES

CHICKENS IN THE GARDEN.

There isn't the shadow of a doubt that chicks will do well in the garden, but how about the garden? Aside from some of the smaller vegetables, like lettuce, radishes, etc., which even quite small chicks would doubtless destroy at once, the chicks would be a decided benefit to most garden crops. They destroy many insects, furnish some fertilizer, and the little scratching they do about large plants is no detriment. The chicks in turn are benefited by the insects obtained, by the young and tender weeds and grass blades which they help to destroy, and, in hot weather, by the partial shade of the growing plants. If it is possible, the best plan is to place one outdoor brooder, or the coop containing the mother hen, in the shade of a tree in that part of the garden which it is desired to have the chicks frequent. When one brood reaches such size that they begin to damage growing plants, or to do too much scratching, they are removed to another range and others are substituted. Of course, among some of the larger plants, like corn, potatoes, beans, etc., the chicks could be allowed to run until well grown without doing damage.

Upon many large poultry farms the ground upon which chicks are raised one season is plowed and planted to some crop the next spring, that season's chicks being raised on fresh ground. This past winter I visited a 5,000-hen plant where a large field which was well seeded to clover was pointed out as the place for growing the next crop of chicks, while another large field, well covered with colony houses and brooders in which the chicks had been raised the previous year, was to be cropped the coming season. This garden method of growing chicks furnishes a similar plan to the man with little ground.

New York.

T. A. TEFFT.

EXPERIENCE WITH POULTRY AILMENTS.

My experience has been that the ailments most commonly encountered in large flocks are indigestion and bowel trouble. The former, if not taken in time, develops into the latter. When I see signs of illness in my flock I know it is not caused by lice, as I have always managed to keep my fowls free from them, and I look for other symptoms. A sure sign of indigestion is the appearance of a purplish tinge in the comb. When I discover this symptom I give epsom salts immediately, a teaspoonful in three teaspoonfuls of boiling water being a dose for a full-grown fowl. I then prepare a gallon of drinking water by adding sufficient permanganate of potash to give it a strong pink color. I generally give this treated water in the morning for three or four mornings, and pure water at noon.

The next most serious poultry ailment, in my opinion, is roup. For this the hatchet is generally recommended as the only sure cure, but I have always believed in trying to find a more profitable remedy.

Last fall I had a flock of 60 pullets that I wanted to keep over but did not have comfortable quarters for them. I put them in an old house that was somewhat draughty on windy days. They did very well, laying as many as 44 eggs in one day through the coldest weather. However, about the middle of February I noticed one or two with heads swelled and eyes and nose running. Other cases developed, some getting so bad they could scarcely eat or breathe. I tried nearly every treatment for the trouble that I had ever heard of but they continued to grow worse.

In a week from the appearance of the first symptoms I had lost one and nearly a dozen more were sick. They were thoroughbred and I had two other pens of the same stock. Although the coops were not connected in any way, it seemed certain that I must do something or lose a lot of valuable fowls, so I cleaned the coop containing the sick fowls thoroughly and soaked the roosts and floor with kerosene. Then I dipped some squares of flannel into one of the well known coal tar disinfectants until they were well soaked, then tied them to the roosts. Every two days I soaked these cloths afresh until they had been dipped three or four times. Then I covered my mouth and nose with a kerchief and sprinkled about a third of a bushel of air-slaked lime upon the floor. I used a small dish for

applying the lime, getting down close to the floor and throwing it in such a way as to cover the surface well and cause the fine particles to rise in a cloud from the floor. It proved so strong that I had to seek the open air two or three times. When I had finished the fowls were all sneezing and choking but none were affected seriously. A week later I repeated the lime application and inside of three weeks from time of first cleaning there were no indications of roup nor have there been any since.

I keep a barrel of lime on hand all the time. I think it one of the most necessary things about a poultry yard. It acts on fowls as does snuff on persons having cold in the head, causing them to sneeze and dislodge accumulations of mucus, thus relieving the congestion.

I did not separate the sick fowls from the well ones, nor did I treat any of them separately. All were shut in the coop for 24 hours after applying the lime. Then they were given plenty of soft food and green stuff but no corn or other heating food. For drink they had warm water or warm separator milk. As I do not believe in breeding from fowls that have even had a touch of roup, none of these hens will be used as breeders, and I was fortunate in having no cockerels in the pen.

Huron Co.

G. L. P.

AFTER-SWARMS UNPROFITABLE—HOW TO PREVENT THEM.

When a colony has cast a large swarm, as the first usually is, the following issues are only a result of the feverish or excited condition of the bees, and of the fact that a number of young queens have been hatched, or are about to hatch. The second, if large, usually leaves the hive in a depopulated condition, and the fever abates at once. The remaining bees either destroy, or allow to be destroyed, by personal combat all the young queens that might cause another issue. If the swarm is returned in about 48 hours, the young queen that comes with it, strong and vigorous as she is, being the oldest of the new queens, readily overpowers the remaining one and at once begins her regular duties. This throws the condition of the colony back into its normal state, and honey gathering is no longer interrupted unless a protracted honey crop of great proportions, or the neglect of the apiarist to give room, should cause another spell of feverish excitement later.

When having a second swarm with the purpose of returning it to the hive, it may be temporarily put into any kind of a box, a nail-keg, or in fact any vessel that will hold them for the short time they are expected to remain. As a matter of course it is well to look to the comfort of the bees otherwise, to give them plenty of room and plenty of air and shade. A very great trouble with after-swarms is their instability. Sometimes they contain several queens and will alight in two or three clusters. After you have moved one of these and congratulated yourself upon having secured the queen you are very much astonished to see the other clusters leave for the woods. Sometimes they will not even settle when first issuing. In the great majority of cases heat is probably to blame for the desertion. If you place a swarm in a hive standing in a shady place, with the hive well ventilated, you stand a good chance of having the swarm stay.

Another method of preventing after-swarms consists in removing the hive from its stand at the issue of the first swarm, placing the swarm in its stead. This removes all the old bees and throws the entire working force on the first swarm, which then becomes the main colony and may be looked to for the largest yield of honey.

New Jersey.

F. G. HERMAN.

Simple Remedy for Gapes.—Several years ago I lost a lot of chickens because of gapes. I had tried all sorts of remedies when a neighbor happened along and advised giving them sour milk containing cooking soda. Two rounding teaspoonfuls of soda to a quart of the sour milk were the proportions advised. I prepared a panful of milk and set it before them while it was foaming vigorously. It was a sight to see the chickens drink it as they seemed crazy for it. I lost no gaping chickens after that and have never seen a case of gapes that it did not cure. The gas from the soda appears to dislodge the worms.—Subscriber.

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J. H. Banghart, Lansing, Mich., the well-known breeder of Duroc Jersey Swine, in ordering his advertisement continued, writes: "As long as I continue in the breeding business, I expect to advertise in the Michigan Farmer."



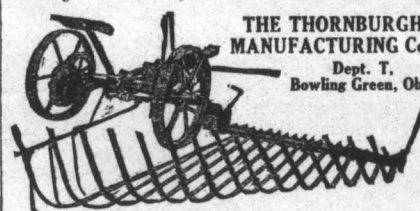
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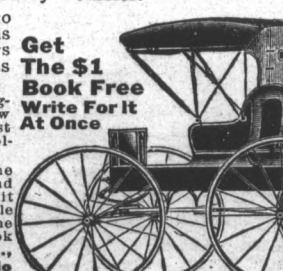
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PRACTICAL SCIENCE.

NUTRITION STUDIES.

BY FLOYD W. ROBISON.

(Continued).

Balanced Ration.

Under our definition of balanced ration it will be seen that no feed stuff can comprise a balanced ration except it contains all of the three proximate principles, namely protein, carbohydrates and fats, in sufficient quantities to satisfy fully the requirements of the animal. This would necessitate a sufficient

The Ration Compared to the Human Dietary.

In the second place we may see that a balanced ration will mean the use of the expensive constituents of a feed stuff only so far as their addition becomes a nutritive necessity to the animal body. We might make a comparison to a condition well known in the human dietary. One of the most expensive food stuffs in the human dietary is the various meat products, such as sirloin steak. It is possible to make an entire meal of sirloin steak but in so doing the cost of that meal is exceedingly high. On the other hand, it is not possible to make, for any great period of time, a meal exclusively of the cheapest articles of diet, such as starch, and even possibly potatoes. A balanced human dietary would mean just enough meat in the ration, or its equivalent, to meet the requirements of the body for protein, and from that point to add enough of the cheaper food constituents, such as potatoes, starches, etc., to fully satisfy the body demands.

Balanced Ration Dates Back to 1859.

The balanced ration is about as old as is our oldest agricultural college, the Michigan Agricultural College. The first public conception of the theory of the balanced ration was published in 1859, by Grouven, who proposed the first balanced ration from the standpoint of the protein, carbohydrates and fats contained in the feeding stuff. This pronouncement gained little support until it was remodelled in 1864 by Dr. Emil von Wolff. Grouven based his standards upon the total amount of protein, carbohydrates and fats found upon chemical analysis in the various feeds. He failed to take into consideration the later well-known fact that feeds could not be valued or compared solely from the standpoint of the crude protein, carbohydrates and fat content. He failed to recognize likewise that the various factors influencing the digestibility of that feed made entirely unreliable the comparison of feeds from the solely chemical and analytical standpoint.

Wolff Gets the Credit for the Balanced Ration.

Wolff evidently perceived at once the disadvantage of Grouven's position and appreciated at the same time the idea therein conveyed because, when his standards (Wolff's) were published in 1864 he took into consideration this question of digestibility. Just how firmly anchored this idea of Wolff's was may be gleaned by knowing that from that time to this feeders universally have computed rations for domestic animals based upon these principles then worked out by Wolff. It is true that within the last few years Kellner, in Germany, and Armsby, in this country, have computed rations on the basis of their starch values, as we shall discuss later, and while these values simplify the balanced ration from certain points of view, they detract not one particle from the correctness as well as the usefulness of the Wolff feeding standard.

Henry, in his "Feeds and Feeding," (Chapter VIII), goes very thoroughly into the question of feeding standards and the methods of the computing of rations. It would aid the student materially in the understanding of this matter if he would consult this excellent work in the chapter mentioned above. In Table 1, page 106, Henry gives the total nutrients in 100 lbs. of the most common feeding stuffs, including among the roughages, corn stover, clover hay, timothy hay, and oat straw, and among the concentrates, corn, oats, bran and old process linseed meal.

Roughages.	Pounds.
Corn Stover.	3.8
Crude protein	51.2
Carbohydrates	1.1
Fat	

Red Clover Hay.	Pounds.
Crude protein	12.3
Carbohydrates	62.9
Fat	3.3
Timothy Hay.	Pounds.
Crude protein	5.9
Carbohydrates	74.0
Fat	2.5
Oat Straw.	Pounds.
Crude protein	4.0
Carbohydrates	79.4
Fat	2.3
Concentrates.	Pounds.
Corn.	Pounds.
Crude protein	10.3
Carbohydrates	72.6
Fat	5.0
Oats.	Pounds.
Crude protein	11.4
Carbohydrates	70.2
Fat	4.8
Bran.	Pounds.
Crude protein	15.4
Carbohydrates	62.9
Fat	4.0
Linseed Meal.	Pounds.
Crude protein	33.9
Carbohydrates	43.0
Fat	7.8

In Table II, the percentage of digestible matter of these various feed stuffs is shown.

Roughages.	Per Ct.
Corn Stover.	Per Ct.
Crude protein, digestible	30
*Carbohydrates, digestible	60
Fat, digestible	67
Red Clover Hay.	Per Ct.
Crude protein, digestible	58
*Carbohydrates, digestible	59
Fat, digestible	55
Timothy Hay.	Per Ct.
Crude protein, digestible	48
*Carbohydrates, digestible	55
Fat, digestible	50
Oat Straw.	Per Ct.
Crude protein, digestible	33
*Carbohydrates, digestible	50
Fat, digestible	36
*Computed by writer.	
Concentrates.	Per Ct.
Corn.	Per Ct.
Crude protein, digestible	76
*Carbohydrates, digestible	90
Fat, digestible	86
Oats.	Per Ct.
Crude protein, digestible	77
*Carbohydrates, digestible	65
Fat, digestible	89
Bran.	Per Ct.
Crude protein, digestible	77
*Carbohydrates, digestible	67
Fat, digestible	63
Linseed Meal.	Per Ct.
Crude protein, digestible	89
*Carbohydrates, digestible	72
Fat, digestible	89
*Computed by writer.	

Figuring the amount of digestible nutrients by multiplying the figures in Table I by the percentages shown in Table II, the total amount of digestible nutrients which may be obtained from these various feeds are given, (Table III). For example, we figure corn stover contains 3.8 lbs. crude protein per 100 lbs. Consulting Table II, we find that 36 per cent of this crude protein is digestible. Therefore 3.8 multiplied by .36 equals 1.4 which is the amount of digestible protein in 100 lbs. corn stover. In the same way the total amount of carbohydrates in corn stover is 51.2 lbs., of which we find about 60 per cent is digestible. Multiplying, therefore, 51.2 by .60 gives 30.7 lbs. of carbohydrates to be digestible from 100 lbs. of corn stover. In a similar way we find 7 lbs. of digestible fat in 100 lbs. of the stover. The difference, therefore, between the 3.8 lbs. of crude protein found upon chemical analysis in the corn stover and the 1.4 lbs. shown to be digestible, is the amount of protein in the stover which is unattacked by the digestive juices in the body. Similar with regard to the carbohydrates and the fats.

Roughages.	Pounds.
Corn Stover.	Pounds.
Crude protein	1.4
*Carbohydrates	30.7
Fat	0.7
Red Clover Hay.	Pounds.
Crude protein	7.1
*Carbohydrates	37.1
Fat	1.8
Timothy Hay.	Pounds.
Crude protein	2.3
*Carbohydrates	40.7
Fat	1.2
Oat Straw.	Pounds.
Crude protein	1.3
*Carbohydrates	39.7
Fat	0.8
*Computed by writer.	
Concentrates.	Pounds.
Corn.	Pounds.
Crude protein	7.8
*Carbohydrates	65.3
Fat	4.3
Oats.	Pounds.
Crude protein	8.7
*Carbohydrates	45.6
Fat	4.2
Bran.	Pounds.
Crude protein	11.8
*Carbohydrates	42.1
Fat	2.5
Linseed Meal.	Pounds.
Crude protein	30.1
*Carbohydrates	30.9
Fat	6.9
*Computed by writer.	

(Continued next week).

Twelve and a half Million Dollars Wheat Increase.



THE Indiana Experiment Station says that an increase of 5 bushels in the average yield per acre in Indiana would mean an annual increase of \$12,500,000. in the value of the crop; that experiments in ten representative counties of that State

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Consult our nearest local agent for prices and terms, or send your name and address to us and we will mail you free, postage paid, a 52 page book on Fertilizers and Dr. Widtsoe's article on "How to Fight Drought with Fertility."

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New Perfection Oil Cook-stove

This year they got a New Perfection Oven Also a New Perfection Toaster Also a New Perfection Broiler

"Gee, what a difference in the meals a good stove makes," said one of the boys. So they called their shack "Camp Comfort." And they will tell their mothers and wives about the stove, too. For the New Perfection Oil Cook-stove is as convenient for the home as for the camp. It will bake, broil, roast and toast as well as a regular coal range.

STANDARD OIL COMPANY (An Indiana Corporation)

The New Perfection Stove

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The Lawrence Publishing Co.,
Detroit, Mich.

DETROIT, JUNE 29, 1912.

CURRENT COMMENT.

The republican national convention for 1912 is now a matter of history, but the effects of its deliberations are likely to be more far reaching in the future history of the country than those of any other similar gathering ever held. Our readers are familiar with the trend of political events which preceded the convention and which led up to the bitterly fought contest at Chicago. They are, no doubt, likewise familiar with the more or less partisan reports appearing in the daily press during the progress of the convention.

As our readers know, the Michigan Farmer is not in any sense of the word a partisan advocate and it is the policy of its publishers to devote no space to political topics, except in cases where the interests of readers are at stake. But in view of the unusual interest taken by country people in the present political situation, we have deemed it advisable to comment in an unbiased manner upon the Chicago convention and the principles involved in the contest which took place there and which will become an issue in the campaign following it.

This convention was one in which the sharp political practices which have played too prominent a part in political history were made an issue and caused a split in the republican party, which George Ade humorously described as an absolute divorce. Previous to the convention the leading candidates for nomination each claimed a majority of the duly elected delegates to the convention. For many days previous to the convention the national republican committee held hearings in Chicago, at which the claims of each side were heard and a temporary roll of the convention was made up in which practically all of the contested delegates favorable to the renomination of President Taft were seated, by what Col. Roosevelt's adherents termed "steam roller" methods.

This resulted in an effort by the Roosevelt adherents to eliminate the voting strength of the contesting delegates in the temporary organization of the convention, in which effort they failed, owing to the fact that the parliamentary situation was in the control of their opponents. As a result, the contest in the seating of contesting delegates was continued before the credentials committee appointed by the temporary chairman af-

ter the organization of the convention. It was alleged by the so-called progressive element of the party, the leaders of which were favorable to the candidacy of Col. Roosevelt, that "steam roller" methods were again used, to seat the Taft delegates, the strained relations reaching the breaking point when two Taft delegates were given seats in the California delegation, notwithstanding the fact that Roosevelt had received an overwhelming majority of the popular vote, the delegates being seated on a technicality which the Roosevelt adherents deemed most unfair.

At this point the fight to "purge the roll" of delegates was dropped and the credentials committee reported a partial list of delegates, which was later supplemented by more names, for the purpose, as alleged by Roosevelt adherents, of making certain of seating Taft delegates, since those whose right to sit in the convention was being voted upon were disqualified from voting on their own cases.

There was a good deal of talk with regard to the possibility of a compromise candidate, but the Roosevelt leaders refused a compromise selected by "tainted delegates" and would recognize no action of the convention not joined in by 540 uncontested delegates, as a majority of the convention. As a result the greater part of the Roosevelt delegates sat mute in the convention when the nominations were made, thus serving notice that they would not be bound by the action of the convention.

On the other hand, the Taft adherents claimed that the evidence submitted in favor of the contesting delegates did not justify them in seating them, and after much delay, with the strength which was available to them after the final roll of delegates was made up, a majority nominated Taft and Sherman to head the national republican ticket, named a new national committee to act four years hence, and adjourned.

Immediately upon the adjournment of the convention the delegates who did not participate in the nominations, and a host of other Roosevelt supporters gathered in another hall and placed him in nomination as a progressive candidate. Steps were also taken to at once organize a new party. Col. Roosevelt accepted the nomination subject to the action of the later convention and declared himself willing to support any man other than himself whom the convention might prefer to select as a candidate for the presidency.

Regardless of the merits of the claims of the contending factions, a contest conducted in this manner is, to say the least, distasteful to a large percentage of thinking people. What the result will be none can, of course, tell, but one thing would appear certain and that is that the several states will enact laws before another campaign occurs which will provide for the election of delegates to national conventions by a general primary so conducted as to make impractical, if not impossible, the seating of delegates whose claims to the right to participate in the deliberations of national conventions are derived in any other manner than through the expressed will of the majority of their party in the state or district who are sufficiently interested to exercise their right of franchise at the primaries. In the meantime the country must suffer a bitterly contested campaign in which personalities and recriminations are likely to become as prominent as are issues and principles.

There is opportunity in Michigan for the building of thousands of new and prosperous farming communities on the unimproved agricultural lands of the state.

The opportunities presented for home building on these unimproved lands are set forth in an article from an Oceana county farmer in another column of this issue, and a word of warning to the prospective purchaser is also interjected, as viewed from the standpoint of one who is interested in the development of our northern counties along economically correct and permanent lines. In the article above referred to the work of the several development bureaus of the state is justly commended, while the avarice of unscrupulous dealers and speculators is as strongly condemned. It is but a natural result that those who are dealing and speculating in these unimproved lands should seek to make as large a profit from them as is possible, and quite as natural that in this effort they should seek customers for the poorer lands who are not well informed as to the comparative value of soils for agricultural pur-

poses and who are not expert judges of the "raw material" from which prosperous and profitable farms may be developed. It is also an unfortunate fact that this class of investors are not well informed as to the proper methods of handling these soils to get the best results from them, and a comparatively large proportion of failures is thus bound to result from their ventures, which, in turn are certain to react to the detriment of the rapid development of the country. Thus it is to the advantage of the new country and those who are interested in its permanent upbuilding that the better lands be first settled, as it is undoubtedly to the advantage of the settlers themselves, hence the pertinence of the advice given in the article above referred to that the prospective buyer make a careful personal investigation of agricultural conditions and prospects or, if he is not competent to judge of these conditions for himself to seek disinterested advice from competent persons on these points.

Then, having invested in new, unimproved land, of which there is such an abundance of good quality awaiting the home maker in Michigan, it is equally important that the management of the land be right from the start. The depletion of the fertility of much of our older agricultural land through poor management should not be repeated on the virgin soils of the state yet to be improved. It is far easier and vastly more profitable to maintain their fertility from the start than it is to rehabilitate them once they have been depleted of their virgin fertility and gotten into a poor mechanical condition. The writer of the article above referred to has well said that "right methods of agriculture must obtain to the end that the productive power of the soil shall be conserved." Fortunately for the future of the agriculture of that portion of our state which remains to be developed along agricultural lines, the sum of human knowledge regarding correct farm management on different types of soil is greater today than ever before, and that knowledge is being disseminated with a more liberal hand each year. The agricultural press, the colleges and experiment stations, the institutes, the county schools of agriculture and in many localities the high schools are doing a work of inestimable and far-reaching value along these lines. In addition to all these, Michigan is to be benefited in an efficient and timely manner through a state bureau of farm management, experts soon to be placed in the field through a co-operative arrangement between the Bureau of Farm Management of the United States Department of Agriculture and the State Board of Agriculture. This scheme contemplates a state director to be placed in charge of the work, a district supervisor for each congressional district and county agents in the several counties, the latter to be placed at first where the need is most apparent and the system to be gradually enlarged as is found practical. Thus the scientific details of farm and soil management as revealed by experimental and research work will be given a more practical application in the upbuilding of our agriculture through expert study of local conditions on the ground, linking the scientific to the practical in application to agricultural problems in a manner never before undertaken through the co-operation of the national and state governments with the several county municipalities or the people of the farming communities of the state.

Should this experiment in the more rapid dissemination of scientific agricultural knowledge prove as successful as it would seem to promise, it will not only be a valuable aid in the building of new and prosperous agricultural communities on the good agricultural lands of Michigan which are as yet undeveloped, but should, as well, prove instrumental in solving the problem of the profitable development of even the poorest of our cut-over lands. That all of these lands may yet prove valuable for agricultural purposes is far from an impossibility, notwithstanding the pessimistic views of our Oceana correspondent. It has been demonstrated that with the application of proper methods soil-enriching legumes can be grown on them and it has been pretty clearly established that where legumes can be successfully grown the fertility of the soil can be increased to and maintained at a point which will make the tilling of that soil a profitable industry.

But while this problem is being solved there are large areas of naturally fertile

land awaiting development in Michigan, which offer the best of opportunities for home building to the young men of our own and other states who are seeking an independent, honorable and profitable calling, and there was never a more propitious time or place for such to establish themselves to their future satisfaction.

HAPPENINGS OF THE WEEK.

National.

A. S. Seligman, a noted banker, was killed in an auto accident in New York city Monday.

The democratic national convention is in session at Baltimore this week. Early news indicates a conflict between the progressives and conservatives of the party. A majority of the national committee are favorable to the selection of Judge Alton B. Parker, former nominee of the organization for president, as temporary chairman of the convention. The progressives, under the leadership of Col. Bryan, are opposing this selection.

The park commissioners of New York city have grave apprehensions as to the permanency of the parks lest some control over buildings in the immediate neighborhood be secured. A committee has been selected to investigate the situation as presented by landscape architects.

A failure of Congress to pass appropriation bills for the payment of running expenses is causing much trouble in the different departments of the government. Secretary Wilson has ordered that his men in the field incur no expenses after June 30, while the soldiers and sailors in the army and navy department are to be paid with I. O. U. paper.

The case of Harry K. Thaw is again being brought to light by the attempt of his attorneys to free him from confinement in the White Plains insane asylum upon the ground that he has recovered sanity.

By the collapse of an old wooden dock on Eagle Park, Grand Island, in the Niagara River, last Saturday night, 32 persons are known to have been lost in the river. Seventeen of the bodies have been recovered and identified. Owing to a lack of jurisdiction on the part of the federal authorities it seems that no investigation into the cause of the great disaster will be made.

Prof. Parker, of Columbian University, reports that he and his party have been successful in reaching the top of Mt. McKinley in Alaska, which is the highest peak in America.

A stove company of Detroit has adopted the unique scheme of insuring its employees. The insurance premiums are paid by the company and the blanket policy covers both old and new employees.

The common council of Lansing have attempted to force a sane celebration by enacting an ordinance making it illegal to sell or use fire crackers more than two inches long.

Arrangements are being made for the first international convention of automobile experts of the world to meet in Detroit sometime during the summer of 1913.

The water used by Wyandotte has been condemned by the state board of health because of the danger from Detroit sewage which is dumped into the river above the former municipality.

In a rear end collision between two freight trains at Crayton, Pa., two persons were killed and four injured last Saturday morning.

An explosion in a coal mine at Hastings, Col., resulted in 12 men being killed. It is believed that the accident was caused by the ignition of gas by what miners call a "windy shot."

The plan of establishing a federal university will occupy the attention of the National Educational Association at the meeting of the organization in Chicago next month.

President Taft vetoed the army appropriation bill which had attached a provision for legislating Major General Wood out of his position.

The prosecuting attorney of Midland county has asked Governor Osborn to remove two township officers of that county for misconduct in office.

Foreign.

The Canadian government is commending the abolition or reduction of duties on certain articles not produced in Canada, but which are shipped into the country to be manufactured into finished products.

Statistics show that the export of pulp wood from Canada is decreasing owing to the growing tendency to manufacture same into paper at home. The amounts sent to the United States shows an increase while exports to Great Britain have practically disappeared.

A successful flight of the largest dirigible balloon ever built was made near Rome, Italy, last week. The air craft has a displacement of 12,000 cubic meters and is equipped with two 120 horsepower motors.

An Italian expedition has made a successful landing at Bu Sheifa, an island in the Gulf of Sida.

It is announced that King George of Greece will abdicate his throne when he has completed a half century's reign, in favor of the Crown Prince. The abdication will take place in 1913 if the desire of the King is carried out.

There have been no developments in the Cuban situation this past week save the charges made against President Gomez, to the effect that the rebellion was started under his direction for the purpose of establishing his power by putting it down. The charges are made by a Cuban publication.

GRANGE

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

THE JULY PROGRAMS.

State Lecturer's Suggestions for First Meeting.

(A Patriotic Program).

Patriotic songs.
Prayer: "For all public officers," by chaplain.

Reading, "Who are the people?" from Ray S. Baker's article in American Magazine.

Song.

Who are "The People?" discussion.

A playlet, "Birth of the National Flag," in charge of Equal Suffrage Committee.

Reading, "Alfalfa."

Discussion, "How shall we insure best crops of alfalfa?"

Patriotic songs.

AMONG THE LIVE GRANGES.

Agriculture in High Schools is favored by the members of Howell Grange and at its last meeting a committee was appointed to confer with the Howell board of education with a view to having the teaching of agriculture introduced in the local high school. This Grange is wide awake and has well attended meetings.

Benzie Pomona held its summer meeting with Almira Grange at the latter's hall overlooking Lake Ann, May 31 and June 1. Six of the county's eight subordinates were represented, and visitors were present from Leelanau and Grand Traverse Pomonas. Bro. N. I. Moore, of Jackson county, was present in the capacity of state deputy and gave several excellent Grange talks. Nineteen candidates were given the degree of Pomona.

Encouraging the Boys and Girls.—At a recent meeting of Calhoun Pomona the duties of parents to their boys and girls were brought squarely to the attention of patrons by Secretary Ashley, of the Y. M. C. A., who explained the workings of the county system. He said it was up to the parents to work with their children and give them encouragement. He declared that the desires and inclinations of the young people are not always given proper consideration. School Commissioner Miller talked along the same line and told how a little encouragement developed a young lady of the vicinity into an artist of considerable ability for one of her age. He told of the corn contest and said 31 boys and one girl had entered and each would raise a quarter of an acre in the contest this year. In the contest for delegate to the state fair 33 boys and seven girls have entered.

Kent Lecturers' Second Conference.—The second lecturers' conference of the year in Kent county was held in the Farmers' Club room, Grand Rapids, June 12. It proved a very profitable session to those present, Sister Curtiss, Pomona lecturer, having provided a full program of helpful subjects designed to bring out not only individual successes in the lecturer's work but also the failures. She encouraged each one to "give and get" help from the suggestions made. As a further help in becoming better acquainted and gaining assistance from each other, the plan of the "Round Robin Letter," which was first suggested at the Rockford meeting of Pomona in January of this year, was more fully explained. The plan is to begin with a page by Pomona lecturer of some program, or suggestions for one, this being sent in turn to all lecturers according to the alphabetical list of Granges, each one adding a help and sending the whole promptly to the next one. When the letter has been the rounds, No. 1 will replace her first with a second, if it is found desirable to continue it. The letter was started in April. On this special day there were many outside attractions, yet the attendance was good, one lecturer coming 25 miles to be present. A vote decided in favor of another conference early in October.—M. C. S.

Grand Traverse Pomona held its summer meeting in Grant township hall on June 5 with representatives of Williamsburg, Summit, Silver Lake, Peninsula and Grand Traverse Granges in attendance. Every subordinate in the county submitted a report, all of which were encouraging. After a big dinner, served in tents on the lawn, a short business session was held, followed by an excellent program. "The co-operative marketing of farm products" was discussed at length, the consensus of opinion being that the time is ripe for the adoption of a practical system of co-operative marketing and that the farmer's income will be increased thereby. "Potato culture" was the subject of another profitable discussion. The greatest interest, however, was developed by the debate on the question of granting suffrage to women. Affirmative arguments were presented by Silver Lake Grange, while members of Grand Traverse Grange presented the negative side. A great many of those present took advantage of the opportunity given to participate in the general discussion and at its conclusion a vote was taken which gave the decision to the affirmative side by a large majority. Fred C. Warner, of Peninsula Grange, in presenting the topic, "Important points in the school law," called attention to some of the changes that had been made by the present legislature, and to some of the laws that are often overlooked. The evening program was furnished mainly by the younger members, a drill participated in by 24 children forming a prominent and pleasing feature. The next meeting of this Pomona will be held with Silver Lake Grange, at Monroe Center, Sept. 4 and 5.

FARMERS' CLUBS

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.

ANNUAL PICNICS.

With the arrival of the season for Club picnics, an occasional notice of such an event is found in the reports from local Clubs, published under the head of Club Discussions in this department. It is desirable that publicity be given to each and every such special feature meeting, to the end that the public may be advised as to when and where they are to be held, and many new people thus become interested in the Club as an organization. It will be helpful to the Club as well, to have publicity given to these special feature meetings, hence each corresponding secretary of a local Club is urged to send a notice of such meetings to the Michigan Farmer at the earliest possible date after arrangements have been made for holding them.

CLUB DISCUSSIONS.

The Automobile for the Farmer.—In spite of rain and mud the Hadley and Elba Farmers' Club held an enthusiastic meeting at the home of Mr. and Mrs. Wesley Himes. The roll call response, "The most interesting book I've read and why I liked it," was heartily given. "Is the automobile a practical investment for the farmer?" was well handled by Charles Riley, who is a strong advocate of the automobile. Mrs. Wm. Bartenfeldt led in the general discussion of "Waste in the home." Committees were appointed to arrange the "Children's Day" meeting to be held in June at The Oaks, with Mr. and Mrs. Albert Brown. After a generous supper the plucky members drove home through the rain, feeling well repaid for their efforts.—Mrs. C. P. Johnson, Cor. Sec.

Discuss Woman Suffrage and Socialism.—The Wixom Farmers' Club held its June meeting at the pleasant farm home of Mr. and Mrs. Ford Burch. A good number were in attendance and the day was much enjoyed. After the bountiful dinner the meeting was called to order by President D. Gage, and a lengthy and interesting program was rendered, consisting of recitations, vocal and instrumental music, and question box, which contained several good questions which brought out quite lively discussions. This was especially true of the ones on woman suffrage and socialism, the trend of opinion being in favor of suffrage. Dr. Banks, of Detroit, was with us and gave us a very valuable and interesting talk along that line. There was a difference of opinion as to what socialism is; and this subject will be taken up again in the near future.—Mrs. R. D. Stephens, Cor. Sec.

To Organize Junior Club at Annual Picnic.—The Charleston Farmers' Club, of Kalamazoo county, will hold a picnic at Hagelshaw's grove, Thursday, July 4. Plans are being made to organize a Junior Farmers' Club for the boys and girls. This Club will try to stimulate a healthy interest among the children in all that is worth while in country life. Rev. A. W. Nagler, who is a great lover of children, has consented to give a talk. Parents are urged to bring their boys and girls. Every child in Charleston township is especially invited. If your folks can't come, come anyway, and no child shall go away hungry.

Question Box the Feature of Club Meeting.—The Riverside Farmers' Club met June 6, at the pleasant home of Lewis Lyons, south of Corunna. The day was bright and fair and a large number of members, with invited guests, were present. The meeting was called to order by Vice-President Mrs. Kentfield. Roll call showed 14 families were represented. Chaplain George Detwiler read the 24th psalm. A song, "My Old Kentucky Home," was sung by the Club. The name of Frank Cary, as a candidate for membership, was voted upon and he was elected. The question box was in charge of Mr. Detwiler and it brought out some good subjects. Mr. Mattoon: "Which would you prefer, the revenue on liquor or local option and taxes to raise money for the county's need?" Mr. Mattoon thought that all that was gotten in the way of revenue was used to prosecute criminal cases arising from the use of liquor. Mrs. J. Billhimer: "Should woman suffrage carry, and why?" She declared that it is the duty of men to see that women vote. When this is accomplished, she said, there will be no more saloons. The failure of the local option law in Shiawassee county, she declared, is due to the failure of the officers to do their duty. Mr. Lyons: "Which would be the more profitable, one mile of state road, or the money spread over roads in general?" The reward road is all right, Mr. Lyons said, but other roads need repairs. This closed the topics and with a rising vote of thanks to the host and hostess, and after all had enjoyed a bountiful supper, the members left for their homes. The next meeting will be held with Mr. and Mrs. A. Matthews, July 4. The meeting will continue all day.



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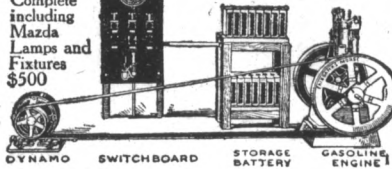
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DETROIT WHOLESALE MARKETS.

Grains and Seeds.

Wheat.—Except for a few minor fluctuations the wheat market remains upon the basis of a week ago, with a tendency upward at the opening of the trade this week. Those who desire higher prices are encouraged by the hot weather prevailing throughout the northwest on both the American and Canadian sides of the line. The lack of stocks in the importing countries of Europe has also given encouragement to the bulls. This condition is further augmented by the short crops in the producing countries abroad. On the other hand, reports are reaching the trade centers from the southwest to the effect that many fields which were earlier pronounced a total loss are yielding as high as ten bushels per acre. In Nebraska and Kansas the situation is reported more promising than earlier. The cash trade is slow, millers are having a small call for flour and they are refusing to stock up with old wheat because the outlook of the spring wheat crop is so promising that they believe lower prices will prevail. The visible supply shows an increase of about one and three-quarter million bushels. One year ago the price for No. 2 red wheat was 88c per bushel on the local market. Quotations are as follows:

	No. 2	No. 1	Red.	White.	July.	Sept.
Thursday	1.12 1/4	1.10 1/4	1.12 1/4	1.14 1/4		
Friday	1.11 1/4	1.09 1/4	1.11 1/4	1.13 1/4		
Saturday	1.11 1/4	1.09 1/4	1.11 1/4	1.13 1/4		
Monday	1.12 1/4	1.10 1/4	1.12 1/4	1.14 1/4		
Tuesday	1.12 1/4	1.10 1/4	1.12 1/4	1.14 1/4		
Wednesday	1.12 1/4	1.10 1/4	1.12 1/4	1.14 1/4		

Corn.—The decline of last week has been followed by a small reaction in values. The slight improvement in wheat has no doubt aided, but the delay in corn planting and the slow growth of the plant, due to cool weather has impaired the outlook for a big crop. Feed manufacturers are not taking corn as plentifully as is their custom, but are using substitutes. The trade is quiet. The visible supply shows a decrease of 619,000 bu. One year ago No. 3 corn was quoted at 58c per bu. Prices for the past week are as follows:

	No. 3	No. 3
	Corn.	Yellow.
Thursday	75 1/2	77 1/2
Friday	76	78
Saturday	76	78 1/2
Monday	76	78 1/2
Tuesday	76	78 1/2
Wednesday	76	78 1/2

Oats.—While an easy tone ruled at the close of the oat market on Tuesday, prices held steady throughout the past week. There is little change in crop conditions, most sections reporting the crop as equally promising with a week ago. The visible supply shows a decrease of 655,000 bushels. One year ago standard oats were quoted at 45c per bu. Quotations are as follows:

	Standard.	No. 3
		White.
Thursday	55 1/4	55 1/4
Friday	55 1/4	55 1/4
Saturday	55 1/4	55
Monday	55 1/4	55
Tuesday	55 1/4	55
Wednesday	55 1/4	55

Beans.—This department of the market is lifeless, no transactions being reported. Quotations which are nominal remain the same as last week. They are:

	Cash	Oct.
Thursday	2.70	2.30
Friday	2.70	2.30
Saturday	2.70	2.30
Monday	2.70	2.30
Tuesday	2.70	2.30
Wednesday	2.70	2.30

Clover Seed.—There is nothing doing in the clover seed field. October is nominally quoted at the same figure as a week ago.

	Prime Oct.
Thursday	10.00
Friday	10.00
Saturday	10.00
Monday	10.00
Tuesday	10.00
Wednesday	10.00

Rye.—The rye trade is inactive, with the quotations of last week still ruling, the price being 89c for cash No. 2.

Flour, Feed, Potatoes, Etc.

Flour.—Prices are steady with the trade slow.

Straight	\$5.60
Patent Michigan	5.80
Clear	5.00
Rye	5.40

Feed.—Prices show a decline of from 1¢ to 3¢. The carlot prices on track are: Bran, \$25 per ton; coarse middlings, \$27; fine middlings, \$30; cracked corn and coarse corn meal, \$34; corn and oat chop, \$32 per ton.

Hay and Straw.—Hay and rye straw are lower. Quotations: No. 1 timothy, \$22.50@23; No. 2 timothy, \$20@21; clover, mixed, \$19@21.50; rye straw, \$11@11.50; wheat and oat straw, \$10.50@11 per ton.

Potatoes.—There is scarcely any trading in old potatoes, the stocks being practically depleted. New potatoes from the south are quoted at \$3.75@4 per bbl.

Provisions.—Family pork, \$19.50@21.50; mess pork, \$20.50; clear, backs, \$19.50@21.50; hams, 14¢@15¢; briskets, 11¢@12¢; shoulders, 12¢; picnic hams, 10¢@11¢; bacon, 14¢@16¢; pure lard in tierces, 13¢; kettle rendered lard, 13c per lb.

Dairy and Poultry Products.

Butter.—Butter prices are unchanged from last week. While the output over the country is large storage people are not taking hold of the market as usual because they believe prices are too high

to warrant packing. The demand for immediate consumption is strong and gives the trade good support, although it is prophesied by big dealers that prices must decline within a short time. Quotations are: Extra creamery, 26 1/2¢; first creamery, 25 1/2¢; dairy, 21¢; packing stock, 19c per lb.

Eggs.—A strong demand from consumers and storage people gives the egg trade an active support and enables the dealers to handle rapidly the very large volume of business forced upon them. Current receipts, candled, are quoted at 20¢; seconds, 17 1/2¢; check, 16c per dozen.

Poultry.—Trade is about steady with a week ago. Offerings are small. Quotations: Live—Broilers, 25¢@28¢; chickens, 11¢@12¢; hens, 12¢@13¢; turkeys, 16¢@18¢; geese, 11¢@12¢; ducks, 14¢; young ducks, 15¢@16c per lb.

Veal.—Steady; fancy, 10¢@11c per lb; choice, 8¢@9c per lb.

Cheese.—All grades except Michigan flats and limburger rule higher. Michigan flats, 16¢@17¢; York state, flats, 17¢@18¢; limburger, 17¢@18¢; domestic Swiss, 24¢@25¢; brick cream, 16¢@18c.

Fruits and Vegetables.

Cherries.—Sour are quoted at \$1.25 per 16-qt. case.

Raspberries.—In small supply, and red are selling at \$4.50 per 24-pt. case.

Strawberries.—Michigan berries are offered freely but the wide demand is keeping the trade firm at quotations slightly higher than those of last week. The price paid for Michigan 16-qt. cases is from \$1@1.25.

Honey.—Choice to fancy comb, 15¢@16c per lb; amber, 12¢@13c.

Apples.—Market slow. Baldwins are selling at \$4.50@5; Steele Red, \$5.50@6; Ben Davis, \$3@3.50.

OTHER MARKETS.

Grand Rapids.

There were 500 teams of sellers on the city market Tuesday morning. Strawberries sold at 60¢@85c. Dry weather is shortening the berry season. White cherries sold at \$3 per bu., red cherries at \$2.50. Vegetables are selling as follows: Old potatoes, \$1; new potatoes, \$1.50; carrots, 15¢; radishes, 5¢; onions, 10¢; beets, 25¢@35¢; lettuce, 25¢; cabbage, \$1.25; pieplant, 25¢; peas, \$1.75. Old hay is bringing \$15@18. Dressed hogs are worth \$9 @9.50.

Chicago.

Wheat.—No. 2 red, \$1.07 1/4@1.09 1/4; July, \$1.07 1/4; September, \$1.04 1/4.

Corn.—No. 3, 72 1/2¢@73c; July, 73 1/2¢; September, 72c per bu.

Oats.—No. 2 white, 53 1/4¢@54 1/4¢; July, 48 1/4¢; September, 40 1/4¢ per bu.

Barley.—Malting grades, 80¢@1.05 per bu; feeding, 65¢@70c.

Butter.—Last week's prices rule. Volume of business moderately good. Quotations: Creameries, 23¢@25c; dairies, 21¢@24c per lb.

Eggs.—Market active and firm with top grades showing a gain of 1c; miscellaneous offerings unchanged. Quotations are: Firsts, 18¢; ordinary firsts, 17c per doz; at mark, cases included, 15 1/2¢@16 1/2¢.

Potatoes.—With the close of the season for old stock near at hand and offerings fairly liberal, prices are declining rapidly. Old potatoes now quoted at 60¢@70c per bu; new stock, \$1.20@1.30 per bu.

Beans.—Prices remain at last week's figures with business slow. Quotations: Pea beans, choice hand-picked, \$2.92@2.95 per bu; prime, \$2.82 1/2@2.85; red kidneys, \$3.25.

Hay and Straw.—Timothy has suffered another sharp decline, while clover and alfalfa are also slightly lower. Straw unchanged. Quotations: Timothy, choice, \$29@22; No. 1, \$18@19; No. 2 and No. 3 mixed, \$15@17; clover, \$12@14; No. 2 and no grade, \$6@10; alfalfa, choice, \$15@15.50; No. 1, \$14@15; No. 2, \$10@12. Straw—Rye, \$10@11; wheat, \$8@8.50; oat \$9@9.50.

New York.

Butter.—Top grades are up while others remain steady. Creamery extras, 27¢@27 1/2¢; firsts, 25 1/2¢@26 1/2¢; seconds, 25¢@25 1/2¢.

Eggs.—Demand is large. Prices higher. Quotations: Fresh gathered extras, 22¢@23c; do. extra firsts, 20¢@21c; firsts, 19¢@19 1/2¢; western gathered whites, 22¢@23c per dozen.

Poultry.—Prices for chickens a little improved. Dressed—Chickens, broilers, 26¢@27c; fowls, 13 1/2¢@15 1/2¢; turkeys, 13¢@23c per lb.

Boston.

Wool.—An improvement in the textile industry has forced manufacturers to buy wool which, in turn, has made it necessary for wool merchants to go into the field and purchase wool at the high prices being asked by growers. This they are able to do and still make a nice margin of profit. In the fleece states prices are ruling from 4¢@5c above the parity of the seaboard market for old wools. Medium wools are being contracted for in Ohio for 25¢@26c and unwashed wools at 24¢@25c. Fine unwashed rules at 27¢@28c. Michigan prices are ruling on about the same comparative basis. Throughout the fleece states the quality of the offerings is excellent. This accounts in part for the better prices that growers are able to command. In all, however, the strong demand from the manufacturers appears to be the basis for the present upturn in wool values.

Elgin.

Butter.—Market is firm at 25c per lb., which is the price of the previous week.

An Iowa farmer says: "The pig crop is small, and every farmer is selling calves for veal. There are no cattle for marketing hereabouts, and very few are being raised."

THE LIVE STOCK MARKETS.

Buffalo.

June 24, 1912.

(Special Report of Dunning & Stevens, New York Central Stock Yards, East Buffalo, New York).

Receipts of stock here today as follows: Cattle, 140 cars; hogs, 100 double decks; sheep and lambs, 32 double decks; calves 2,600 head.

With 140 cars of cattle on our market here today, and with 17,000 reported in Chicago, our market was 10¢@15c per cwt. higher on all good grades. The common low grades and slippery kinds only selling about steady with last week. However, we had an active market, and by one o'clock everything had gone over the scales, and the market closed steady. Common stockers sold very badly; 15¢@25c lower than last week.

We quote: Best 1,400 to 1,600-lb. steers dry-fed, \$9@9.40; good prime 1,300 to 1,400-lb. do., \$8.85@9.25; do. 1,200 to 1,300-lb. do., \$8.50@8.75; medium butcher steers, 1,000 to 1,100, dry-fed, \$7.85@8.40; best fat cows, dry-fed, \$6.25@6.50; best fat heifers, dry-fed, \$7.75@8.25; grass steers, 1,000 to 1,100, \$7@7.50; light grass steers, \$6@6.50; best grass cows, \$4@4.50; grassy butcher cows, \$3.50@4; grassy fat heifers, \$6@6.50; grassy butcher heifers and steers mixed, \$6.25@6.50; trimmers, \$2.75@3; stock heifers, \$4.25@4.30; best feeding steers, dehorned, extra good, \$5.50@6; common feeding steers, \$4.50@5; stockers, inferior, \$3.50@4; prime export bulls, \$6.75@7; best butcher bulls, \$5.50@6; bologna bulls, \$4.25@5.25; best milkers and springers, \$5@6; fair to good do., \$4@4.50; common kind do., \$2.50@3.

We had a very good market here today on all grades of hogs. With 100 loads on sale and an equal demand, the trade was full strong with the close of last week; pigs and lights sold some higher. One or two loads of fancy hogs sold at \$8.05@8.10, with the bulk of the best at \$8. Ordinary yorkers, \$7.75@7.90; pigs and lights, \$7.50@7.65; roughs, \$6.50@7; stags, \$5@6. Market closed full steady, and with a good clearance, we should have a good trade here tomorrow, and a fairly good market the balance of this week.

The lamb market today was active; most of the choice spring lambs sold at \$9.25@9.50. There was no dry-fed yearlings on the market today; the best that was here sold mostly at \$7.50; one or two small bunches at \$8. The sheep market was also active; prices strong 50c higher than last week. Look for about steady prices on both sheep and lambs the balance of the week.

We quote: Choice spring lambs, \$9.25@9.50; cull to fair do., \$5@8; yearlings lambs, \$7.50@8; bucks, \$2.50@3; wethers, \$5.25@5.50; handy ewes, \$4.50@4.75; heavy ewes, \$4@4.50; cull sheep, \$2.50@3; veals, choice to extra, \$9.25@9.50; fair to good do., \$6.50@8.

Chicago.

June 24, 1912.

Cattle. Hogs. Sheep. Received today 18,000 42,000 18,000 Same day last year 29,865 41,393 23,060 Received last week 52,865 117,858 87,423 Same week last year 56,344 118,738 100,638

The restricted demand for cattle is illustrated today by the fact that only fat lots had much demand, while the others were slow and barely steady, despite the extremely light Monday run. Last week the receipts were so much larger than in other recent weeks that packers got well stocked up with beef to meet present moderate requirements. However, the few strictly prime heaves averaged a dime higher this morning, with a sale of 33 fancy Iowa fed branded Hereford steers that averaged 1,495 lbs. at \$9.60, another high record.

Hogs were a good nickel higher this morning, with sales at \$7.30@7.80 for an extreme range. Hogs received last week averaged 236 lbs., the same as a week earlier, comparing with 234 lbs. a year ago and 242 lbs. two years ago.

Sheep and yearlings are steady today, and several cars of range wethers and yearlings arrived from Washington and Oregon. Spring lambs were off about 25c under the load of large numbers received by packers direct from Louisville, following about 8,000 received the same way last Saturday. The best spring lambs offered on the open market brought \$9.

Cattle had such a big advance in prices on meager offerings during the previous week that receipts were greatly increased during the first half of last week, and the result was a reaction in prices for pretty nearly everything except the best class of heavy, long-fed beefs. The top prices were higher than ever, steers of choice to fancy grading going at \$9.10@9.50, while good heavy cattle brought \$8.70@9. Medium lots selling at \$7.75@8.65, fair steers at \$7 and upward and the commonest little yearlings at \$6.15 and over. The greater part of the steers crossed the scales at \$7.50@9.10, and numerous sales were made of distillery fed steers at \$8@9.50. Cows and heifers found buyers at \$4.30@8.50, with a Monday sale of 38 head of fancy Hereford heifers that averaged 639 lbs. at \$8.65. Extra heifers always sell at outside figures, as do prime heavy steers, but the general market for female cattle broke last week more on an average than steers, medium lots selling very badly. Cutters sold at \$3.40@4.25, canners at \$2.50@3.35 and bulls at \$3.75@7.50, few bulls going anywhere near the top figure. By Thursday there was a reaction in the market due to small offerings, with fat cattle ruling largely 10¢@15c higher, but inferior light cattle were dull and no better in price. The stocker and feeder trade was rather larger than a week earlier on somewhat larger offerings of medium and common kinds, and prices averaged 15¢@25c lower, but choice lots were as scarce as ever and as firm as a rule. Stockers brought \$4.25@6.50

for inferior to fancy grades, and feeders of fair to extra weights sold usually at \$6@7. Calves were lower, selling at \$3.25@8.35 for inferior heavy to prime light weaners. Milk and springers sold at \$35@75 per head, only choice ones ruling active or firm. At the close of the week steers not choice averaged 25c lower than a week earlier, while grass-fed cows were off 50¢@75c.

Hogs started off the past week in the usual recent bearish fashion, with Monday receipts of 45,375 head and only 4,878 taken by eastern shippers, prices showing a drop for the day of about a dime. With the best heavy shipping barrows selling for \$7.35 and the market the lowest seen in three months, stockmen suddenly shut off supplies, and several good advances took place on subsequent days. Still the shipping demand continued small, and the improvement in prices was altogether due to the decreased offerings. The decreased runs were by no means confined to Chicago, but extended to all the other western markets. For the year to date, however, the hog receipts at all western markets have ran far ahead of corresponding periods one and two years ago.

CROP AND MARKET NOTES.

Mecosta Co., June 14.—June has been a cold month to date. Farmers are beginning to get caught up with their spring work. Many were obliged to plant their corn from two to three times, owing to poor seed. The old potatoes practically all sold and those who held their crop after being offered \$1.30 have learned their lesson dearly. There is practically no wheat here this year. Rye in places is very good. Oats look well, as well as the hay. The outlook never was better for apples than this year. A large acreage of beans being planted. No horses around here for sale at any price. Cows (fresh) are selling at from \$30@50. Hogs, 7c; fat cattle, 3 1/2¢@5c; eggs, 15c; butter, 18c; butter-fat, 23c.

Sanilac Co., June 14.—We have not had much hot weather but the ground has become very hard and dry since the rain. No easy task to plow it, but still harder to work down in shape for a good seed bed. The planting of beans and potatoes is the main occupation at the present time. Corn about all planted. Oats are not doing very well; the ground is settled so firm after the rains that they are badly in need of moisture. Apples are forming in abundance, especially orchards that were taken care of. Cherries do not promise very well; frost damaged them in the spring. Horses seem to be higher this summer than usual. Dairymen are looking sober over the price of butter-fat—24c per lb. Wool is some better in price, 23c now being paid. Old potatoes will have to last as long as possible; not much prospect for new ones, they are worth around the dollar mark. Beef and pork are selling well on foot. Eggs, 16c.

Gratiot Co., June 21.—This date finds planting in all stages of the process. Some are cultivating, some planting corn or re-planting, some drilling beans, some are up nearly large enough to cultivate, while many have their ground yet to plow, either in whole or in part. Seed corn has been a hard proposition in all sections. Only a few that were not caught. It appears that quite a large acreage of potatoes is being planted, even though the seed is scarce and price high. Wheat is heading and it appears that 50 to 75 per cent of a good crop will be harvested. A heavy shower Wednesday and another Thursday were timely for some on clay soils, which were too dry to germinate beans. Grass has made rapid growth.

Washtenaw Co., June 15.—The weather up to date has been something of a disappointment to the farmer, an unusually cold, wet time early in the season gave way to cold nights and dry days at the corn planting season which, together with seed corn of low vitality has been sufficient to place the average corn field in very poor condition indeed. But just at present a nice little shower and sunny skies are combining to give a brighter outlook. Possibly the old adage of "a poor beginning makes a good ending," may prove true. Oats and grass are making a good growth. Haying has already commenced for those raising alfalfa. Hay probably 75 per cent of a normal crop, and wheat 25 per cent of a crop.

Ohio.

Carroll Co., June 10.—We had a pretty heavy frost here the eighth of this month. We are needing rain now. The grass isn't growing very much. Most of the corn isn't growing well and some of it was killed by the recent frost. The frost did much damage to the gardens and truck patches. Farmers think the wheat crop is killed also. Farmers busy replanting corn. Seed corn has been very scarce this spring. Farmers are done shearing sheep but only a little wool sold yet.

Wayne Co., June 24.—The weather has been very uncertain, being very cold and wet, with a hard frost on the 8th, the mercury within one degree of freezing, doing lots of damage to crops, especially on low lands. Then the weather warmed up, with a heavy rain on the 15th and 16th, about five inches of water having fallen in the one and a half days, flooding the low lands and doing a great deal of damage to crops and pasture. Corn planting was delayed by the wet, cold weather, some having just been planted before the heavy rain, and what was up is growing very slow. Hay prospects are not improving and will be a short crop in this part. Oats fair, being of medium length and having prospects of a fair crop. What little wheat there is is filling nicely, but will not be one-quarter of a crop. Acreage of late potatoes is considerable less this year than usual, owing to scarcity of seed and the high price. Butter, 20c; eggs, 17c.

THIS IS THE LAST EDITION.

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

DETROIT LIVE STOCK MARKETS.

Thursday's Market.

June 27, 1912.

Cattle.

Receipts, 1,409. Good dry-fed steady; all other grades dull, 25¢-50¢ lower at opening; will close even lower.

We quote: Extra dry-fed steers and heifers, \$7@7.50; steers and heifers, 1,000 to 1,200, \$6.25@6.50; do. 800 to 1,000, \$5.25@6; grass steers and heifers that are fat, 800 to 1,000, \$5.25@6; do. 500 to 700, \$4@4.75; choice fat cows, \$5@5.25; good fat cows, \$3.75@4.25; common cows, \$3@3.15; canners, \$2@2.50; choice heavy bulls, \$5.25@5.50; fair to good bolognas, \$4.50@4.75; stock bulls, \$3.75@4; choice feeding steers, 800 to 1,000, \$5@5.50; fair feeding steers, 800 to 1,000, \$4.25@4.75; choice stockers, 500 to 700, \$4@5; fair stockers, 500 to 700, \$3.75@4; stock heifers, \$4@4.25; milkers, large, young, medium age, \$4@6; common milkers, \$25@35.

Spicer & R. sold Regan 6 heifers av 433 at \$3.50; to Mich. B. Co. 4 cows av 1,100 at \$4.25, 3 steers av 937 at \$6.30, 2 bulls av 715 at \$4, 1 cow weighing 780 at \$4, 3 heifers av 737 at \$5; to Bresnahan 2 canners av 885 at \$3; to Newton B. Co. 10 steers av 943 at \$5.25, 2 do av 805 at \$4.25, 1 bull weighing 960 at \$5.50, 6 steers av 925 at \$6.50, 2 heifers av 690 at \$4.25, 25 steers av 1,012 at \$7; to Kamman 16 do av 876 at \$5.60; to Kamman B. Co. 30 butchers av 837 at \$5.75; to Laboe 10 do av 740 at \$5.10; to Dancer & Kendall 4 stockers av 620 at \$4.50; to Bresnahan 2 cows av 1,150 at \$4.50, 1 do weighing 720 at \$2.60; to Regan 5 butchers av 540 at \$4.25, 8 do av 447 at \$4; to Sullivan P. Co. 22 do av 842 at \$4.50; to Kamman B. Co. 1 bull weighing 1,420 at \$5.25, 1 do weighing 1,130 at \$5.25; to Sullivan P. Co. 2 do av 725 at \$4, 4 steers av 790 at \$5.25, 3 cows av 887 at \$2.75.

Roe Com. Co. sold Rattkowsky 2 cows av 835 at \$3.50; to Mich. B. Co. 3 butchers av 700 at \$5, 2 cows av 915 at \$3.25; to Newton B. Co. 1 do weighing 740 at \$3, 1 bull weighing 1,200 at \$4.75, 1 do weighing 1,290 at \$5.75, 22 butchers av 840 at \$6.25, 4 cows av 1,082 at \$5, 1 do weighing 740 at \$3, 1 do weighing 1,080 at \$4, 4 do av 1,090 at \$5, 6 do av 833 at \$3, 2 do av 820 at \$3; to Austin 18 stockers av 502 at \$5; to Sullivan P. Co. 10 butchers av 566 at \$4.25; to Rattkowsky & Co. 2 bulls av 1,185 at \$5; to Mich. B. Co. 5 cows av 944 at \$4; to Mich. B. Co. 13 butchers av 783 at \$5.40; to Parker, W. Co. 1 do weighing 760 at \$4, 12 cows av 1,013 at \$5; to Thompson Bros. 8 butchers av 612 at \$5; to David 5 stockers av 430 at \$4.50; to Sullivan P. Co. 12 butchers av 882 at \$6.

Bishop, B. & H. sold Schlischer 8 butchers av 541 at \$4.15; to Austin 2 stockers av 505 at \$4.50; to Bresnahan 1 steer weighing 1,400 at \$7.50, 1 cow wgh 1,300 at \$6, 1 do weighing 1,140 at \$4.25; to Newton B. Co. 1 cow weighing 1,160 at \$6; to Parker, W. & Co. 29 butchers av 830 at \$6.50, 1 bull weighing 800 at \$4.50, 2 do av 1,140 at \$5; to Austin 3 stockers av 523 at \$4.75; to Newton B. Co. 4 butchers av 795 at \$5, 4 do av 732 at \$5.25, 2 do av 620 at \$4.25; to Regan 3 do av 497 at \$4; to Bresnahan 10 cows av 886 at \$4.10, 5 do av 822 at \$3.10; to Regan 7 heifers av 583 at \$4.50; to Newton B. Co. 4 steers av 842 at \$5.25, 19 butchers av 904 at \$5.50; to Sullivan P. Co. 5 do av 890 at \$5, 1 canner weighing 1,000 at \$3, 1 steer weighing 900 at \$7, 1 bull weighing 2,060 at \$5.50, 1 do weighing 1,020 at \$4.50; to Bresnahan 23 stockers av 500 at \$4; to Simmons 8 do av 705 at \$5; to Dancer & K. 6 do av 543 at \$4.75; to Thompson Bros. 13 butchers av 766 at \$4.

Haley & M. sold Breitenbeck 3 cows av 973 at \$4.25; to Bresnahan 10 butchers av 555 at \$4.25; to Sullivan P. Co. 1 heifer weighing 640 at \$4.50, 3 do av 790 at \$4.50, 2 cows av 915 at \$4.25, 2 steers av 980 at \$7.25, 2 do av 1,035 at \$6; to Applebaum 1 cow weighing 1,000 at \$3.75, 2 heifers av 700 at \$4.40; to Parker, W. & Co. 2 bulls av 1,100 at \$5; to Kamman, 10 cows av 932 at \$3.90, 4 do av 1,050 at \$4.50, 7 butchers av 817 at \$5.25; to Mich. B. Co. 9 do av 744 at \$5.10, 1 cow weighing 1,090 at \$3.50, 1 heifer weighing 900 at \$5, 6 butchers av 900 at \$5.25; to Goose 6 do av 394 at \$4; to Sullivan P. Co. 1 cow weighing 890 at \$3, 1 bull weighing 1,250 at \$5, 5 cows av 920 at \$4, 1 do weighing 740 at \$3.25, 5 do av 834 at \$4; to Rattkowsky 2 bulls av 1,070 at \$5; to Newton B. Co. 2 oxen av 1,920 at \$5.25, 3 bulls av 816 at \$4.25, 2 cows av 1,170 at \$5.25; to Dancer & K. 3 stockers av 570 at \$4.25, 4 do av 632 at \$4, 4 do av 667 at \$4.50.

Weeks sold Bresnahan 14 butchers av 573 at \$4.75.

Sandall sold Newton B. Co. 2 bulls av 875 at \$4.25, 2 do av 655 at \$4, 2 cows av 1,240 at \$5.25, 2 steers av 865 at \$6, 13 butchers av 675 at \$4.90, 2 cows av 730 at \$3.25, 1 do weighing 1,000 at \$2.75.

Weeks sold Elk 4 cows and bulls av 1,045 at \$4.25.

Veal Calves.

Receipts, 1,056. Market 25¢ higher than last week. Best, \$8@9; others, \$4@7.50.

Spicer & R. sold Mich. B. Co. 10 av 165 at \$8.75, 8 av 155 at \$8.50; to Sullivan P. Co. 5 av 125 at \$6.50, 5 av 150 at \$8.50, 14 av 180 at \$5, 4 av 155 at \$8.75, 8 av 130 at \$7.50; to Burnstone 10 av 133

at \$8.50; to Sullivan P. Co. 14 av 145 at \$8.25.

Roe Com. Co. sold Sullivan P. Co. 18 av 155 at \$8.25, 7 av 150 at \$7, 29 av 150 at \$8.25; to Applebaum 16 av 155 at \$6; to Hammond, S. & Co. 1 weighing 180 at \$7, 19 av 160 at \$8.60, 18 av 155 at \$8.75; to Sullivan P. Co. 7 av 135 at \$8.25; to Rattkowsky 29 av 150 at \$7.85, 14 av 135 at \$8.10.

Haley & M. sold Mich. B. Co. 21 av 155 at \$8.50, 6 av 135 at \$8; to Newton B. Co. 2 av 150 at \$6, 11 av 150 at \$8, 10 av 155 at \$8.50; to Goose 13 av 140 at \$7.50, 8 av 200 at \$7, 20 av 130 at \$7; to Newton B. Co. 18 av 160 at \$8.50; to Elk 1 weighing 120 at \$7.50, 9 av 150 at \$8.50, 5 av 120 at \$7.50.

Bishop, B. & H. sold Parker, W. & Co. 3 av 140 at \$7, 8 av 155 at \$8.75, 4 av 125 at \$7.45, 17 av 160 at \$9, 5 av 125 at \$7, 3 av 185 at \$8.75, 10 av 148 at \$8, 15 av 155 at \$6.50, 8 av 145 at \$8, 8 av 140 at \$7.50; to Hammond, S. & Co. 6 av 175 at \$8.75; to Goose 3 av 125 at \$7.75, 11 av 140 at \$8.10; to Hammond, S. & Co. 5 av 120 at \$7, 12 av 150 at \$8.75, 4 av 155 at \$9; to Goose 5 av 140 at \$8.50; to Nagle P. Co. 2 av 130 at \$7, 21 av 155 at \$8.75, 2 av 120 at \$7, 15 av 150 at \$8.75, 10 av 129 at \$6, 18 av 135 at \$8; to Hammond, S. & Co. 20 av 125 at \$8.15, 9 av 150 at \$8.75, 14 av 175 at \$9, 2 av 130 at \$6.50, 9 av 150 at \$8.75, 5 av 150 at \$6.50, 15 av 160 at \$8.75; to Nagle P. Co. 2 av 130 at \$6, 11 av 160 at \$8.50, 32 av 165 at \$8.75, 3 av 150 at \$6.50.

Sheep and Lambs.

Receipts, 1,712. Market steady with last week; lambs 25¢ lower than on Wednesday. Best lambs, \$7.50@8; fair to good lambs, \$6.50@7; light to common lambs, \$4@6; yearlings, \$4@7; fair to good sheep, \$3@3.50; culls and common, \$1.50@2.50.

Spicer & R. sold Sullivan P. Co. 25 lambs av 65 at \$5.75, 4 do av 70 at \$3.50; to Young 40 do av 65 at \$3.35, 8 do av 75 at \$5.50; to Thompson Bros. 9 sheep av 73 at \$2.50; to Youngs 12 do av 110 at \$3.50; to Sullivan P. Co. 3 lambs av 70 at \$8.50, 4 sheep av 105 at \$3.

Sandall sold Mich. B. Co. 10 lambs av 60 at \$7.50, 5 sheep av 90 at \$2.

Haley & M. sold Newton B. Co. 44 lambs av 60 at \$7.75, 9 do av 65 at \$6, 12 sheep av 100 at \$3.50, 3 do av 130 at \$3.25, 6 lambs av 70 at \$5.50, 30 do av 80 at \$7.50, 7 do av 80 at \$8.50, 17 sheep av 125 at \$3; to Thompson Bros. 5 do av 80 at \$2, 17 do av 120 at \$3, 7 lambs av 85 at \$6; to Bray 21 sheep av 105 at \$3.

Bishop, B. H. sold Sullivan P. Co. 22 lambs av 80 at \$6, 13 do av 75 at \$6, 12 do av 70 at \$8; to Thompson Bros. 17 sheep av 85 at \$3.50; to Hammond, S. & Co. 4 yearlings av 95 at \$6.50; to Mich. B. Co. 21 sheep av 85 at \$3, 18 do av 125 at \$3, 30 lambs av 70 at \$8, 10 do av 68 at \$8.50, 9 do av 65 at \$6; to Fitzpatrick Bros. 59 do av 65 at \$7.50, 14 do av 67 at \$7.50, 13 do av 45 at \$5, 6 do av 63 at \$7.50, 74 sheep av 80 at \$3; to Sullivan P. Co. 13 lambs av 57 at \$7; to Fitzpatrick Bros. 18 sheep av 110 at \$3.25.

Hogs.

Receipts, 2,962. Market 10¢ lower than on Wednesday and last Thursday; none sold up to noon.

Range of prices: Light to good butchers, \$7.35@7.40; pigs, \$6.50@6.75; light yorkers, \$7@7.25; stags one-third off.

Bishop, B. & H. sold Parker, W. & Co. 1,200 av 200 at \$7.40, 1,000 av 170 at \$7.35, 710 av 160 at \$7.30, 300 av 140 at \$7.25.

Roe Com. Co. sold Sullivan P. Co. 225 av 200 at \$7.40, 140 av 190 at \$7.35, 215 av 180 at \$7.30, 38 av 170 at \$7.10.

Spicer & R. sold Hammond, S. & Co. 150 av 200 at \$7.40, 300 av 173 at \$7.35, 125 av 170 at \$7.25.

Haley & M. sold same 320 av 190 at \$7.40, 110 av 175 at \$7.35.

Friday's Market.

June 21, 1912.

Cattle.

Receipts this week, 1,602; last week, 1,587. Market dull at Thursday's prices.

We quote: Best steers and heifers, \$7@7.25; steers and heifers, 1,000 to 1,200, \$6.50@6.75; do. 800 to 1,000, \$5.50@6.25; do. that are fat, 800 to 1,000, \$5.50@6.25; do. 500 to 700, \$4@5; choice fat cows, \$5@5.50; good fat cows, \$4@4.50; common cows, \$3.25@3.50; canners, \$2.25@3; choice heavy bulls, \$5.50; fair to good bologna bulls, \$4.75@5.25; stock bulls, \$4@4.50; choice feeding steers, 800 to 1,000, \$4.50@5; fair feeding steers, 800 to 1,000, \$4@4.75; choice stockers, 500 to 700, \$4@5; fair stockers, 500 to 700, \$4.25@4.75; stock heifers, \$4@4.50; milkers, large, young, medium age, \$4@6; common milkers, \$25@35.

Veal Calves.

Receipts this week, 1,477; last week, 1,731. Market steady at Thursday's prices. Best, \$8@8.75; others, \$4@7.

Sheep and Lambs.

Receipts this week, 1,413; last week, 2,342. Market steady at Thursday's prices. Best lambs, \$6@6.50; fair to good lambs, \$4@5; light to common lambs, \$3.50@4; spring lambs, \$7@8.50; fair to good sheep, \$3@3.50; culls and common, \$2@2.50.

Hogs.

Receipts this week, 4,390; last week, 7,001. All grades 10¢ higher than on Thursday. Range of prices: Light to good butchers, \$7.50@7.60; pigs, \$6.60@6.85; light yorkers, \$7.25@7.35; stags one-third off.

Edward Fairbury, of Fond du Lac Co., Wisconsin, who is a prominent cattle feeder, says his cattle, market at Chicago recently, would have done considerably better if he had had a silo last summer, when the pastures were poor most of the season. He intends to build one soon, as he considers it absolutely necessary for those who wish to be independent of drought and rough feed scarcity and who desire to adopt the most economical methods of growing beef cattle.

It has been rumored that the United States government will shortly be in the open market to buy cavalry, artillery and mounted infantry horses.

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.

Windgalls.—Have a two-year-old colt, weight 1,600 lbs., which has wind puffs on both hind legs. Have applied iodine ointment with no results; besides, he has been treated by local Vet., also with no results. J. T., Breckenridge, Mich.—The treatment of ousal troubles are seldom satisfactory no matter what you apply. Apply one part red iodine mercury and ten parts cerate of cantharides every ten days and you will obtain fairly good results. In my practice I have frequently fired and obtained good results.

Irritation of Mouth.—Can you tell me what causes my cow to slaver when eating? She also has some discharge from nose and drools some from mouth continually. She took sick one week ago, was treated by our local Vet. for cold in head, has a good appetite and her breath has a bad odor. Would you consider her milk fit for domestic use? W. E. T., Cadillac, Mich.—There may be some foreign body in back part of mouth, causing most of trouble. Have your Vet. make a careful examination of her mouth. The mouth should be washed out with a lotion made by dissolving cooking soda in water. Give 1 oz. hyposulphite soda at a dose three times a day.

Enlarged Knee—Impure Blood.—About four weeks ago one of my cows bruised knee, causing a soft bunch that seems to contain fluid. I have been tempted to open it, but before doing so would like to have your opinion. I have a nine-year-old horse that has several small bunches on hips and flank, but do not seem to bother him. What had I better give him or apply? H. A. T., Nunica, Mich.—It is not always good practice to open a sack of this kind, unless the wound has proper care and attention afterwards. Apply equal parts tincture iodine and spirits camphor to bunch once a day. If this fails to reduce the swelling, then it might be well to open sack carefully, then keep the wound bandaged and covered with oakum. The wound should be kept open and wet with one part bichloride mercury to 500 parts of water; also sprinkle one part iodoform and 10 parts boracic acid on oakum. Give your horse a dessertspoonful of Donovan's solution at a dose in feed three times a day and apply iodine ointment to bunches once a day.

Weak Heart—Indigestion.—We have a ten-year-old mare with fairly good appetite, but tires easily, perspires far too freely, but seems to rest out of her weak spells; kidneys and bowels appear to act in a normal manner, but she is losing flesh and I would like to know what can be done for her. G. T., Adrian, Mich.—Your mare suffers from a weak heart, perhaps the result of indigestion and improper assimilation of food. Give her 1 dr. ground nux vomica, 1 oz. ground gentian and 1 oz. bicarbonate soda at a dose in feed three times a day. Grain and grass is the best food you can feed her.

Mare Does Not Come in Heat.—I have a six-year-old mare that I am anxious to use for breeding purposes, but she has failed to come in heat for the past 12 months. Can I give her anything that will produce heat? C. L. F., Cedar Springs, Mich.—I have known a forced service to produce heat and the mare get in foal from a future service. Opening neck of womb might stimulate her generative organs into action. Also give her 1 dr. ground nux vomica and 20 grs. of powdered cantharides at a dose in feed once or twice a day.

Weakness.—Will you tell me what ails my three-year-old filly? She worked well every day up to two weeks ago. Now she seems to play out after working two hours and refuses to do any more. Coaxing fails to make her work. She has good appetite, looks well, but when she sweats the perspiration is cold and clammy. I have derived a great deal of benefit from your veterinary column in the past and I am sure you can prescribe a remedy that will help her. J. B., Temple, Mich.—Give your mare 1½ drs. ground nux vomica, ½ oz. ground gentian, ½ oz. of ground cinchona, and a dessertspoonful of salt at a dose in feed three times a day. In my practice when treating cases of this kind I have derived benefit by giving a tablespoonful of tincture arnica at a dose three times a day. This seems to increase perspiration by stimulating the small blood vessels and glands of skin.

Fracture—Bruised Shoulder.—Some ten weeks ago my eight-year-old horse got kicked, injuring shoulder. He was not very lame the first ten days, but soreness increased; our local Vet. thought his shoulder had been fractured and applied a light blister, which we repeated ten days later. No improvement could be noticed and local Vet. opened shoulder, found no splinters of bone, but thought bone injured. His shoulder is now slightly suppurated in three or four places. E. B. W., Prescott, Mich.—Dissolve ¼ lb. acetate of lead and 3 ozs. carbolic acid in a gallon of water and apply to shoulder five times a day. Also give him a teaspoonful of powdered nitrate potash

at a dose in feed two or three times a day. You should not apply any strong liniment or blister, for these do a case of this kind no good, but usually hinder a recovery.

Thoroughpin.—Have colt one year old sired by Shire horse out of grade Clydesdale mare that has a puff extending through hock between ham-string and joint. F. W. C., Caro, Mich.—Your colt is perhaps in pasture and will not grow any worse if not treated before stabling him next fall. Fairly good results will be obtained by applying equal parts of tincture iodine and spirits of camphor or iodine ointment twice a week.

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Woman and Her Needs At Home and Elsewhere

IS FAMILY DISLOYALTY RESPONSIBLE FOR POLITICAL GRAFT?

THE American people are popularly supposed to be the most patriotic on earth. A sight of the old red, white and blue is always good for a round of cheers; talk of war with a foreign country brings to light hundreds of embryo colonels, and public holidays are always the occasion for spurts of eloquence and big allusions to Our Country's Greatness which would make a Martian feel that here was patriotism at its highest notch.

But there is one little attribute which alone makes for true patriotism, and which is so sadly deficient in the average American that I often wonder if it is not something other than patriotism with which our speakers are filled on Fourth of July. I refer to loyalty.

Now I suppose my readers will rise right up and vow that they are filled to the brim with loyalty, and no doubt they think they are. But just the ordinary round of conversation convinces a thoughtful person that most of us are short of that commodity. The lack of loyalty in family life, not to mention the lack in political and commercial life, is enough to close all mouths.

Women who complain of their husbands are so common as to excite scarcely any remark. Even the best of wives, the ones who would fight to a finish if any one else criticised "John," will complain bitterly of his shortcomings and take pride in their wifely devotion while so doing. John is slow and always was, even when Mary took him for better or for worse. Mary knew it before she said the fatal words, but she can't keep still about it now that she is his dutiful wife. She nags him continually and means over it to all her friends. Some other Mary's John is "near," that word being more polite than stingy; another man is shiftless, another is slack about the farm and another dresses too well. A proper sense of loyalty would prompt these women to cover the faults of their husbands, but as a usual thing their grievance against John is the burden of their talk.

Perhaps it is not John but his mother who is the thorn in the flesh, or perhaps John's mother considers Mary the thorn. Either way a lack of loyalty to family permits the women to talk about one another to all comers. Children, aping their elders, babble about family affairs which should be kept sacredly private, and then the parents wonder how family secrets become the property of everyone.

The queer part of it is that strangers are told these things. We might forgive the woman, who, after years of repression, unburdens her heart to a friend, but what can we think of the woman who ten minutes after an introduction is pouring out to the new acquaintance all her family troubles? Not only does such a woman lack loyalty, but there is a surprising deficiency in common sense, not to mention fine manners and innate delicacy.

In commercial life it is the same story. Employees are always complaining of the treatment they get from employers. From the hired man on the farm to the eight-dollar-a-week clerk in town, it is the same story. The employee is always overworked and underpaid. He may waste a good quarter of the time he is paid for working and half do his work while he is at it, but to hear him talk he is always abused. And this is the smallest part of his disloyalty. Coming in close contact with his employer he can not but learn things which he should know must never be repeated. But he never has a scruple about telling all he knows, and countless are the instances where the employee is paid well by other men for such disloyalty.

Loyalty to country in politics is a joke. The country is usually the farthest thing from the thoughts of your patriotic politician, even when he is making the eagle scream its loudest in his fervid speeches. It is the individual first, last and always who claims his loyalty.

Am I wrong in saying that it is the lack of loyalty in family relations which is responsible for its absence in commercial and political life? Anti-suffragists tell us that women really rule the country through the cradle. By our lack of family loyalty are we really responsible for the commercial and political dishonesty with which we are today struggling? It seems a far cry from grumbling about our husbands to boodling, but if all sin can be traced back to one of seven roots are not these two sins products of the one stalk, disloyalty?

DEBORAH.

HUMAN WELFARE QUERIES.

Household Editor:—Would you advise leaving a child lunch between meals?—Big Sister.

If the child is hungry enough to eat good substantial food, and the lunch does not make him 'sight his next meal. I should not, however, let him lunch, if he only wanted fruit, candy, cookies or other sweets. If he is hungry enough to eat plain bread and butter or bread and milk he probably needs the food.

Household Editor:—My little girl is very nervous. She is constantly biting her nails and twitching around and always sits with her mouth open. I have been careful to have her play outdoors and put her to bed early. Can you suggest what the trouble is? She is five years old.—Mother.

Have you been careful of her diet? Nervous children should be given plenty of good pure milk, fresh eggs, well-cooked cereals (this does not mean cereals cooked ten minutes, but at least a half-hour), custards, a little fruit and less candy. It is possible that she has adenoids. The fact that she keeps her mouth open constantly seems to suggest that. I should have a good doctor examine her throat and nose, as the removal of adenoids is a great help in toning up the nervous system.

Household Editor:—My husband is just recovering from typhoid fever and is simply ravenous. What can he safely eat?—Mrs. B.

It depends much on how ill he was during the fever, as patients who have had a mild case of fever can safely eat things which one who has been very ill must forego for some time. The patient should be kept on a milk diet for at least two days after the disappearance of fever, when chicken broth and a little milk toast may be added. Follow this the next day with mutton broth, junket, more milk toast and perhaps by soft cooked eggs, custards, boiled rice, a little tenderloin steak, scraped beef, broiled or baked fish, gelatine, etc.

Household Editor:—What are "rissoles"?—Cook.

A croquette mixture enclosed in a pastry crust and fried in deep fat. To make them, roll the crust thin, lay the mixture which, with the crust must be cold, in teaspoons in a line near one edge of the crust. Fold the other edge of the crust over and cut out the rissoles with a cutter. Then lift the edge of the paste, brush with cold water and press in position, brush the whole with beaten egg and fry in deep fat as croquettes, or bake.

Household Editor:—I enjoy reading the Household Department very much and have never sent in any question before, but would be glad if you would answer this for me. I wish to give a shower for a prospective bride, either miscellaneous or kitchen, and would like to know what form of invitation to send, what to have for entertainment and what to serve. I do not care to have cards for entertainment, and could have it either in the afternoon or evening, with 15 or 20 guests.—Inquirer.

Showers are informal and I should simply ask the bride's girl friends over the phone or when I saw them. If necessary to write, send an informal note asking them to meet the bride with you on a certain date and state the sort of shower you are to give. If you wish special entertainment have guessing contests, music, or progressive flinch. Usually a small party of girls furnish enough

entertainment themselves for a couple of hours of fun. If it is a miscellaneous shower the girls might make their gift, as hemming a towel, etc., during the afternoon. Serve lemonade or strawberry shrub, thin bread-and-butter sandwiches, strawberries and cream or ice cream and cake.

Recipe for Sweet Corn Salad.

Household Editor:—I saw a request for sweet corn salad in The Farmer of May 11, and will inclose mine, which I think is fine.

Twenty ears of sweet corn, three green peppers, four or five onions, one head of cabbage, all chopped; two cups sugar, three pints vinegar. Mix all and cook until tender. Prepare the following and cook separate from the above:

Quarter pound of ground mustard, one cup of flour, one teaspoon tumeric powder, one quart vinegar. Cook, and then mix thoroughly with the first and can hot.—I. R.

Ten cups of sweet corn, ten cups of cabbage, three red peppers, three cups of sugar, three tablespoonfuls mustard, three tablespoonfuls celery seed, one-half cup of salt, one quart of vinegar. Cook one hour. This is good put up in glass jars.—Hazel McK.

Besides the two recipes given above thanks are due the following for contributions: Mrs. M. S., Mrs. B. C., Otsego, C. C. W., Mrs. M. H., Watervliet.

LETTER BOX.

Sympathy for the Adopted Mother.

Household Editor:—In reply to Mrs. M. C. M.'s query, I felt that you have a hard problem to solve. If you did not have meddlesome neighbors it would not be half so hard. We are in the same boat with you. The child knows that you are not its mother. Children will talk and mischief-makers are ready to take it up. The child sees it has sympathy, and so you are up against a stump.—F. M. W.

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No. 5506, Girls Dress with Body and Sleeves in one, Closed at Back. Cut in sizes, 6, 8, 10 and 12 years. Age 8 requires 2 3/4 yards of 36-inch material. Price, 10 cents.

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HOME AND YOUTH

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BY L. M. THORNTON.

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Oh day our sires gave life to win;
A nation proud, a nation free,
We boast of them, we boast of thee.

Oh day we hold in fondest pride,
Since we would live as heroes died.
Our country first, we kneeling pray
That worthy we may keep this day.

Oh day we laud, with voice and hand,
A birthright ours in freedom's land.
We praise thee, as the years go by,
This Fourth Day of the month July.

THE OLD LIBERTY BELL.

BY WM. F. PURDUE.

There are many famous and historic bells, some of them much older than the Liberty Bell, in existence in various countries, but it is safe to say that none of them is held in more reverence by their possessors than is the Liberty Bell by the American people. There is no American citizen, school boy or school girl, grown man or woman, who does not feel a personal interest in this famous old bell. Thousands and thousands of Americans have stood in its presence with bowed heads, and even those who have not had that privilege hold it in lasting veneration.

On July 8, 1776, this bell proclaimed the signing of the Declaration of Independence, and from that day until this it has always been known as the "Liberty Bell." Like many other historic relics, numerous fanciful stories have been woven around its history, but historians, after delving for the facts, have disproved many of the old legends connected with it.

Although the Declaration of Independence was adopted by vote of the Continental Congress on July 4, 1776, it was not until four days later, between the hours of eleven and twelve, that the Liberty Bell rang out the proclamation. On this latter date the people were summoned by the peals of the bell to the spacious lawn south of Independence Hall. Here a platform had been built in the open air, and around it gathered a large assemblage of resolute men and women, summoned to hear the story of their independence. John Nixon had been chosen by the Continental Congress to read the declaration, as he was a man of strong voice. It is recorded that John Hancock signed his name to the famous paper in characters so big that "the King of England might read it without putting on his spectacles." And John Nixon read the declaration in tones so loud that the king might have heard every word of it if he had been anywhere near. Throughout the whole reading there was thunderous applause. That night a band of regulators took down their late king's coat of arms from its place in the statehouse, which the portentous events of that day had rechristened "Independence Hall," and carried them to the common, south of the building. Casks were piled high, the king's arms were thrown on top of them, and the heap was set on fire and burned to ashes amid the acclamation of a great crowd.

In the east wing of Independence Hall, just above the glass case in which the famous bell now reposes, is a time-stained placard, handsomely framed, which sets forth in chronological order the events in the bell's history. One of the paragraphs reads as follows: "It rang on the 8th of July, 1776, to call the citizens together to hear the proclamation of the adoption of the Declaration of Independence, in the adjoining yard."

The Liberty Bell was originally cast in London in 1752. In 1751, when the statehouse being built in Philadelphia was nearing completion, the representatives of the Province of Pennsylvania met and appointed a committee to secure a bell for the building. This committee then authorized the colony's agent in London to have a good bell made of about two thousand pounds weight and costing about one hundred pounds sterling. Directions were also sent that the bell should bear on one side the following words, well shaped in large letters, viz.: "By order of the Assembly of the Province of Pennsylvania, for the statehouse in the city of Philadelphia, 1752," and on the other side of the bell was to be this passage from the Bible: "Proclaim Liberty throughout all the Land, unto all the inhabitants thereof. Lev. XXV, vs. X."

The bell arrived in Philadelphia in August, 1752, but, on being hung up to test its tone, it cracked with the first stroke of the clapper. An effort was made to send it back to London to be recast but there was no available boat large enough to carry it, so a Philadelphia firm, Pass & Stow, was finally awarded the contract. The first recasting resulted in failure, but the second was successful, and in June, 1773, the bell, a decided improvement over the original one sent from England, was finally raised and fixed in the statehouse steeple. The bell was three feet high and twelve feet in circumference at the brim, and weighed 2,080 pounds.

This bell was originally intended only to call the assembly together, but the approaching events in the history of our country destined it to fill an important place among other bells. The passage taken from the Bible which was inscribed on the bell, "Proclaim Liberty throughout all the Land, unto all the inhabitants thereof," has since been looked upon as a prophetic inspiration.

Some of the noteworthy instances of the ringing of the Liberty Bell are as follows: September 12, 1764, to call the assembly together when the Massachusetts Bay Colony votes were received, acquainting the assembly with the instructions sent by the colony to its agent in London asking him to use his endeavors to have the sugar act repealed, and to prevent a stamp act or any other imposition of taxes upon them or the other American provinces. Ten days later it rang again to call the assembly together, at which time that body wrote its London agent in similar terms. September 9, 1765, the bell called the assembly together to consider a resolution to accept a plan for a congress of the colonies. This congress convened October 7, 1765, in New York. On September 21, 1765, the bell convened the assembly to consider the act of Parliament imposing stamp duties and other duties upon all British subjects in America. On October 5, 1765, as the British ship, Royal Charlotte, bearing the stamps for Pennsylvania, New Jersey and Maryland, under convoy of a man-of-war, came up the Delaware River the bell was muffled. When the Stamp Act went into effect, on October 31, 1765, the bell was again muffled and tolled. On February 4, 1771, the bell called a town meeting in the statehouse square, when it was resolved that the claim of Parliament to tax the colonies was subversive to the constitutional rights of the colonies, and that the union of the colonies ought to be maintained. A little later the bell called the assembly together when a petition was sent to the king for the repeal of the duty on tea, and again on October 18, 1775, the bell called a town meeting and resolutions were passed denouncing the buyers and vendors of tea as enemies of the country.

On September 26, 1776, the bell, then truly the Liberty Bell, called together for the last time the members of the assembly, and the body dissolved. On April 16, 1783, the proclamation of peace was rung out by the bell. And from that date until its tones were finally silenced, in 1835, it proclaimed the yearly anniversary of the nation's independence day, ushered in the new year, welcomed distinguished visitors, and tolled for the noble dead. On July 4, 1826, it tolled for the death of two ex-Presidents, Thomas Jefferson and John Adams, which occurred on the nation's birthday. This historic old bell was heard for the last time on July 8, 1835, when it was tolled during the funeral services over the body of Chief Justice John Marshall, a survivor of the Revolutionary period who had been associated with Washington and the signers of the Declaration of Independence. Suddenly, during the tolling, the bell cracked, and its tones were silenced forever.

It was then taken down, and after a time the clapper was removed and the bell mounted on the original framework and placed in Independence Hall, where it now stands, enclosed in a glass case to protect it from curio seekers.

The bell which was substituted for the Liberty Bell was removed in 1876 to the tower of the town hall in Germantown, a suburb of Philadelphia, where it is still in active use. In the latter year what is known as the Henry Seybert bell was placed in Independence Hall. It was cast in New York and weighs 13,000 pounds. To this day the custom is observed of ringing the bell in Independence Hall whenever anything of extraordinary moment happens in the old Quaker City.

The Liberty Bell has been a great traveler, having made in all eight journeys to various parts of the country. The bell always travels on a flat car. Invariably it is received with the wildest manifestations of enthusiasm. Everywhere it is greeted with booming cannon, tooting whistles, the din of fire-crackers, the songs of school children and the shouts of patriotic people. The bell's first journey was from Philadelphia to Allentown, Pa., in September, 1777, and of all its travels that was the only one that was not a procession of triumph. In 1777 the British army took possession of Philadelphia, and the bell was conveyed out of the city just in time to prevent its falling into the hands of the British. Other bells of the city were also carried to Allentown. The Liberty Bell was hidden in the basement of Zion's reformed church, and upon the evacuation of Philadelphia by Lord Howe's forces it was taken back and hung in its place. For 108 years the bell remained in Independence Hall after it was returned from Allentown. Then in 1885 it was taken to New Orleans. At that time many people insisted that during the trip to the southern city the old bell was the silent instrumentality that did more to restore amity between the north and south than anything else that had happened since the soldiers of the blue and gray laid down their arms. This was largely due to an interesting incident that happened at Beauvoir, the home of Jefferson Davis. Mr. Davis left a sick bed and drove in a buggy to the station to greet the bell. There he made a short speech, declaring that the time had come "when reason should be substituted for passion and when we should be able to do justice to each other." Then, bending his uncovered head before the bell, he said: "Glorious old bell! The son of a revolutionary soldier bows in reverence before you."

The bell's next journey was eight years later, in 1893, when it was taken to Chicago for exhibition at the World's Fair. On this trip the most notable event was a speech by another ex-President, but an ex-President of the United States this time. Ex-President Harrison spoke in the presence of an immense throng at Indianapolis.

"This old bell," said he, "was cast in England but it was recast in America. It was when this was done that it clearly and to all the world proclaimed the right of self-government and the equal rights of men, and therein it is a type of what our institutions are doing for the immigration of all nations who heard its tones over the water a century ago and who come here to be recast, as it were, into the citizenship of the nation."

The great bell was taken to Atlanta in 1895, to Charleston in 1902, to Boston, where it represented Philadelphia at the anniversary of the battle of Bunker Hill, in 1903, to St. Louis in 1904, and to Jamestown, Va., in 1907. Public opinion is now against the exhibition of this sacred relic at any future exposition, and in all probability it will never again be taken out of the building which has for so long a time been its safe and legitimate repository.

Although the state of Pennsylvania acquired title to the Liberty Bell in 1816 with Independence Hall, together with its grounds, buildings, furniture and all its other property, every patriotic American citizen thinks of the old bell as belonging to the nation and its people, as it does in a sense, with the state of Pennsylvania acting as guardian.

THE HARVEST.

BY ANNA STERNS.

I planted a tiny seed of doubt one day
In the heart of a friend, and went my way,
Not thinking of the harvest it might bear;
But, returning when the rapid years had flown,
I saw with tears the fruitage it had grown,
Of sin and sorrow, crime, and want, and care.

In another heart, upon another day,
I planted deep a grain of faith; then went my way
With little thought that it would multiply;
But as the years sped on it grew apace,
And bore bright flowers of truth, and love and grace,
And countless blessings that will never die.

How lavishly, how recklessly, we sow
The seeds of good and ill, of weal or woe,
Unmindful that the harvest will be sure;
Heedless that soon our sowing will be done,
The Lord of Harvests to His vineyard come,
And through eternity our work endure.

Genial manners are good, and power of accommodation to any circumstance; but the high prize of life, the crowning fortune of a man, is to be born with a bias to some pursuit, which finds him in employment and happiness, whether it be to make baskets, or broadswords, or canals, or statutes, or songs.—Emerson.

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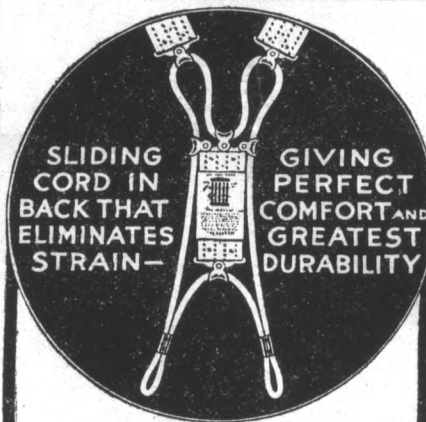
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HORTICULTURE

LOSS OF PEACH TREES BY FREEZING.

Just the other day I heard a young man make the remark that he had planted his last peach tree. He had just dug up about 300 trees three years from planting.

Now if he would just go back over the peach industry for the past 25 years in this community he would see that history is just repeating itself. Many times have peach trees been killed in this state by severe freezing and many times have people wished that they had set out young orchards immediately after the others were removed for in nearly every case where orchards were renewed they proved very profitable.

While not all orchards are badly damaged a great many will suffer severely. In my own case I believe that not more than 25 per cent are so badly killed that they will have to be removed. Next year I shall fill all vacancies and proceed as before.

I am quite puzzled over the results of the heavy freezes of last winter. Orchards that I thought would surely survive were badly killed and orchards that I thought poorly prepared for the winter came through very nicely. I am at a loss to know why trees on perfectly drained fertile soil with apparently well ripened wood were killed, and, trees on poorly drained land came through in very good condition.

The peach tree is short lived as a rule, hence matures early so those who have young orchards killed by the hard winter would do well to reset, as the chances

are that another hard winter will not come soon. While we cannot state with certainty that orchards planted will mature and prove profitable we do know that we can grow peaches at a profit, and just because our orchards suffer from severe freezing occasionally is no logical reason for discontinuing planting of peach orchards. I know of farmers who lost several hundred in the freeze of October, 1906, that would have made considerably more than they have made from their lands had they the following spring replanted their orchards to peach trees.

I have seen many orchards where the trees were killed and left standing for many years. Anyone can remove these unsightly trees quite easily by using a good strong team of horses and grub hoe.

While I earnestly advocate the replanting of peach orchards I would suggest, for the benefit of each peach growing community, that all trees be removed as soon as they are known to be past recovery, even if the orchards are not to be replanted. Nothing is more demoralizing to a peach growing community than to have old dead trees left standing for years to mar the landscape.

Berrien Co.

R. G. THOMAS.

WHAT ARE APPLE TREES GROWN FOR?

A great number of farmers have large orchards of apple trees which are a constant source of worry to them—watching here and there for the first sign of disease and applying the remedy; others plant the trees and then pay no further attention to them than to visit the orchard maybe once or twice a year to chop down a tree that has died and use it for firewood, all because disease has gotten in as a result of his carelessness.

Along this line the Ohio Experiment Station recently called attention to the fact that orchard sanitation is as necessary as city sanitation. The general health of the apple trees will depend upon the sanitary precautions taken in the early season—in the later season the disease will run riot if not avoided. These measures of prevention are to remove and burn all parts diseased by apple blister canker. These parts may consist of dead branches with cankers upon them, or of the external bark attacked by canker where found on a very large branch. All these should be cut off and burned since the spores produced by this material spread the disease.

In an inspection of orchards officials of the station found that stubs left in pruning and wounded and broken branches are the most general source of infection. Orchard owners cannot have healthy tops on the trees when these dead, disease-inviting stubs are left below. Even though the stubs are green when cut off, the same facts apply. Not only should all pruning be done close to the branch and parallel with the direction of the part left, by means of a smooth saw or chisel cut, but the larger wounds must be covered with a suitable dressing. Dressings of paint, white lead or linseed oil and Venetian Red readily crack open. The best dressings have proved to be gas tar, or some form of asphaltum.

THE WEEDER IN THE STRAWBERRY BED.

Taken in proper time, the weeder may be used to good advantage in the strawberry bed. It simplifies and renders more efficient, the work of maintaining clean culture and conserving soil moisture. To secure good results with this tool, preparation tillage must be thorough. The

weeder is not a cultivator, nor will it fulfill the ordinary purposes of that tool. However, if the soil is mellow the weeder will maintain an ideal earth mulch in a way that no other tool can do, for the reason that its teeth work close to the base of the plants. We like to go over the field with this tool as soon as the plants are set. To permit this the plants must be firmly fixed in the soil, as they should be to do well. A few leaves may be pulled off, but this does no great amount of damage for the plants will soon grow other leaves. Then, too, the plants may look muddled up after the weeder has been used, but they straighten up soon and are apparently none the worse for the treatment.

My only regret is that this tool can not be used throughout the entire growing season, but the nature of the plant prevents us from doing this. As soon as the plants begin to form runners the use of the weeder must be discontinued. After the rows are filled in with plants, and these new plants are well rooted the weeder may be used again. This can be done with the hedge row form of culture only. Sometimes we find it best to secure or raise the weeder tooth that comes directly over the row of plants. In this way we can often use the tool when otherwise it would not be advisable to do so. The weeder will not destroy weeds that are more than a few days old, except, as in cross cultivation, there is a large amount of loose earth with which the weeds may be smothered. Because of its peculiar construction the weeder can be used under special conditions only. To be of much service it must be used in the "nick of time," so to speak. For this reason the tool will not become a general favorite. Nevertheless, there are occasions when its timely use will save both time and labor.

Emmett Co.

M. N. EDGERTON.

INDEX

FOR VOL. CXXXVIII.

From Jan. 1st, 1912, to July 1st, 1912.

Farm.
A catch crop for hay after clover314
Advocates King drag for roads468
Alfalfa after early potatoes (Arabic) the best313
discing313
growing in Mecosta county346
experience437
questions313
the proper way to seed 51
winter protection for141
seed, growing in Mich.401
A load that brought money350
An expensive lesson670
Applying lime498
Barley as a profitable crop468
Barnyard manure106
Beans, better seed will produce an increased yield594
Blower attachment, uses home-made50
Building up a depleted farm105
Buzz saw, the138
Cement, storage for users of434
Clover fails because of drought348
growing on sandy land404
seeding with Hungarian grass378
seeding without nurse crop348
the great value of June276
Concrete cellar, a double wall built above the ground139
granary, the670
Corn, amount of to plant405
cultivation, the principles of521
crop, cultivating the669
crop, harvesting the171
growing a large acreage of174
how much107
how much should a man plant?27
is it desirable to grade seed?108
look after the seed108
more about that 100 acres of172
rate of seeding614
the culture of in Mich.521
Cucumber culture467
Deep or shallow plowing, which522
Destroying woodchucks614
Does fertilizer lose its strength by being held over?614
Dr. Hopkins on soil fertility347
Economic material for soil improvement403

Farm advertising, means of82
drainage273
economy613
labor, increasing the efficiency of613
Farm Notes.—Seeding of timothy in the spring, does this silo need lime? fertilizing for a potato crop, 2; eradicating toad flax, (butter-and-eggs), clover in crop rotation, pasturing alfalfa, physical effects of fertilizer, fertilizer for beans, 170; seeding alfalfa in wheat, rape and spurry as crops for green manure, seeding pasture grasses on light soil, seedlings failed, 210; alfalfa on heavy land, potato scab, the fertilizing value of wood ashes, fertilizing value of coal ashes, plowing under refuse beets, 243; combating grain rust, growing cucumbers, flax culture, inoculating soil for alfalfa, 277; growing big crops of corn, crops for green manure, 315; preparing the potato ground for alfalfa, the kind of corn to grow for ensilage, fertilizing value of sugar beets, 349; millet as a hay crop, fertilizing soil for potatoes, growing oats on sandy land, light soil for peas, sand vetch as a forage crop, 350; applying lime to soil, salt as a fertilizer, what caused the seeding to fail, treating oats for smut, fall vs. spring plowing for beans, 402; adding vegetable matter to the soil for alfalfa, seeding alfalfa in, vs. after oats, soy beans as a hay crop, fertilizing the soil for potatoes, 435; popcorn as a cash crop, treating seed potatoes for scab, plowing down rye for alfalfa, 436; eradicating weevil, cross pollination of corn, applying lime on the potato ground, 522; buckwheat for hay and green manure, seeding worn land to alfalfa, the brick silo, 546; size of seed potatoes, 569; cowpeas on worn land, the cellar problem on wet soil, applying fertilizer to corn and po-

tatoes, 570; bean culture, disking, vs. plowing for corn, building a corncrib, teosinte as a forage crop, steel roofs and lightning, 594; seeding clover in late summer, weevil in seed peas, seeding alfalfa with, vs. after rape, fertilizing cucumbers, 614; planting beans in drills vs. hills, plant lice on rutabagas, treatment of Canada thistles in oats, cement floor for granary, 634; spraying potatoes for blight, 650; installing the King system of ventilation, seeding a sandy field to alfalfa, inoculating for alfalfa, vetch as a forage crop and soil renovator, cutworms, 670
Fertilizer and crop economics378
for corn and beans570
for oats466
for spring seeding without nurse crop378
how to apply for potatoes594, 614
Fertilizing corn ground, 594
Fodder, one method of keeping shredded242
For better corn yields, 650
Grain, the cause of wavy growing404
Grass experiments244
investigations212
Handling the hay crop on time633
Hay caps468
Hide and leather trade, interesting facts concerning436
How to apply fertilizers to the corn crop522
Hungarian grass274
Inoculating pure culture a success for522
Intensive vs. extensive farming56
Interesting wheat experiments346
Is farming a lottery?, 546, 594.
the average farmer successful?108
Labor, the conservation of633
Large or small disks523
Lawn, caring for the569
Lillie Farmstead Notes, 140, 213, 634, 650.
Lime, air-slaked173
applying on wheat for clover314
for clover27
Liming wheat and rye for clover437
Make the soil your bank27
Maple sugar industry, the275

Not much of opportunity lost by Michigan farmers274
Oat and pea hay83
Oats and peas, two crops of in one season466
as a spring crop274
sowing without plowing498
Oat crop, preparing for the378
hay650
Observations on Michigan methods of farming466
One of the main reasons for clover failure468
Orchard grass212
Pasture and fertilizer questions27
Peas and beans139
Peas, variety of Canada, 211
Planning and executing the spring work401
to save time438
vs. working50
Potash for muck soils212
Potato crop, the345
experiments210
Potatoes, how to be successful with649
late planted early434
small for seed346
Providing leaf mold436
Raw phosphate rock as a source of phosphorus498
Relation of soil fertility and continued prosperity379
Reminiscences of a potato grower466
Road districts, subdividing the township into350
Road improvement, the King drag for434
Road question, another view of244
Roads, good82, 138
for Genesee county211
how can we best secure good26
the problem of good vs. bad25
Scientific potato culture, 546
Seed corn breeding347
testing467
what about the498
grain, selecting on the farm241
improvement of by plant breeders242
Soil fertility, keeping up 51
Soils, what makes productive211
Some alfalfa don't's346
Some alfalfa observations437
Special crops for special purposes466
Sugar beets as a cash crop377
lost opportunities in growing211
on muck land467
why I grow377
Supplementary forage and catch crops497
Tax discussions, 141, 214, 316.
That wet field again274
The Canada thistle problem523
cornerrib floor634
credit system214
easier way434
farm labor problem405
foundation of agricultural success49
high cost of living438
soil fertility problem173

spring plowing522
Wexford County Boys' Agricultural Club169
Thinks we are not up-to-date2
Those roads469
Tile, capacity of different sized for carrying water650
laying in quicksand50
size of for ten-acre swamp438
Tools, some new farm650
Top-dressing the meadow with coarse manure, 402
meadows with commercial fertilizers469
new seeding670
wheat in spring with fertilizer350
Wagon, economy of the low-down138
Wet land for corn and beans172
Which class is right?212
Why clover fails171
more western farmers do not locate in Michigan3
they go to the city278
Winter, a pleasant diversion for138
Woodlot, another view of the523
that farm83
the314
the profit from that547
Live Stock.
Alfalfa for horses351
A remarkable record599
At what age shall we breed our fillies?380
Breaking a colt to back, 283
Breeders' meetings143
Breeding horses on the farm53
Buckwheat hay poisonous572
Buying breeding stock, 177
Calf, separating from the cow440
Calves, feeding young247
Colt, how to halterbreak a406
teaching the615
the fall246
Commercial pork production635
Do horses require oats in their diet?600
Doing chores52
Ewes, wintering the176
Fads and fancies in breeding470
Feeders' Problems.—The grinding of grain for horses, feeding value of beans, vs. corn, 4; the feeding value of roots, the feeding value of skim-milk, 28; feeding rye to horses, 142; the feeding value of buttermilk to hogs, rape for hog pasture, cull beans as a horse feed, 177; silage for beef cattle, feeding frozen carrots, 215; a permanent hog pasture, rape as a forage crop, buckwheat vs. wheat middlings, 352; raising pigs without milk, soy beans as a pasture crop, spring sown forage, cooked vs. uncooked corn for hogs, the feeding value of corn cobs, 416; cottonseed meal and corn

for horses, rape pasture for hogs, the life of the clover plant, 440; molasses as a feed for horses, cottonseed meal as a horse feed, 500; getting stock on grass, pasture crops for the hogs, rid the live stock of parasite, buckwheat straw for bedding, 524; seeding alfalfa with rape in the hog pasture, 572; value of pea vine ensilage, pasturing hogs in the orchard, a ration for idle horses, 600; grain to feed with cull beans, 651.
Feeding cattle at a profit52
Fillies, is it profitable to breed?441
Flock, spring care of the470
Foal, rearing a571
Give the brood sows exercise144
Growing healthy lambs, 215
Hog business, the safe side of671
Hogging down corn615
Hogs, producing cheaply 5 using to increase soil fertility651
Horse breeding, possibilities of for the farmer465
Horses, best ration for, 524
temperament in571
Indiana cattle feeders' meeting548
Insect pests of farm animals175
It pays to count the cost247
Lambs, barley and rape for fattening439
feeding cheaply5
Live stock, keeping without pasture439
meeting, the84, 109
Live Stock Notes.—54, 111, 147, 178, 216, 247, 319, 381, 406, 441, 501, 525, 549, 572, 601, 615, 671.
Mineral matter in animal nutrition283
Oats for cattle food471
Our meat trade with England215
Pig management, essential factors in317
Pigs, feeding and weaning440
success with spring245
Plants for forage176
Pork production, factors in profitable216
Preventing accidents352
disease4
Raise beets for your stock500
Rambouillets, breed type in525
Record price paid for silage beef651
Saving the lamb crop318
Selection of breeding stock284
Sheep, early experience in raising245
more farmers should raise599
on the farm380
Silage as a feed for cattle545
kept from freezing with stable heat524
for sheep671

Stable ventilation	381	ease	56	Spinal paralysis	147, 627	with skim-milk to	411	Asparagus growing, es-	94
Steers, ration for fatten-	4	Heaves	443	Sprained ankle	354	handling and quieting	505	entials in	94
Successful live stock	651	Hemorrhage	217	back	147	moving	538	Asters, profit in grow-	363
marking	651	Hernia	652	feetlock	472, 567, 652	spring feeding of	363	Beans as a garden veg-	604
Summer management of	407	Hide-bound	287, 472	foot	113, 591, 601	trying conditions for	363	etable	604
the farm flock	407	Horses ate too much al-	286	shoulder	567	why every farmer	201	Beautifulizing the home	433
The cattle situation	407	sike clover	286	tendons	217, 472	should keep a few	201	grounds	433
farm team	615	scours when driven	87	Stifle or hock lameness	218	Blood poison, remedying	674	Blueberry, domestication	18
labor problem	142	took cold	218	lameness	354, 472	Broilers, converting early	74	Borers and yellows	19
stable medicine chest	351	Husk	601	Stocking, 112, 146, 147, 320,	519, 543, 574, 591.	Cockerels into	505	Breaking sod in old or-	559
work horses in spring	351	Impaction	409, 472, 574.	Stricture of teat	519	Brooder, essentials to	298	chards	559
Warding off winter sheep	85	Impure blood	112	Stringhalt	86, 353, 643	success with the	298	Bush fruits, pruning the	364
ailments	85	Incipient heaves, 472, 574,	652.	Surfeit	56, 147, 287, 652	Broodiness, breaking up	661	Cabbage, as a garden	493
Water, the summer's sup-	471	Indigestion, 56, 86, 87, 146,	179, 217, 218, 285, 286,	Sweeney	56, 442, 601	Canker, success in treat-	41	crop	342
ply of	471	Infected abortion, 180	218.	Swollen glands	86, 526	ing for	41	crop, the	206
Winter management of	28	Infectious abortion, 180	218.	Tender feet	187	Cellars, taking bees out	299	lice	206
farm work horses	28	Inflamed joints	636	Three-quarter shoe	519	Chicks, feed and care of	598	Canning and preserving	19
With the sows and pigs	599	Influenza	601	Thrush	179, 286	feeding for best re-	410	industries in United	19
Veterinary.		Injured leg	442	Tongue loller	643	sults	362	States	19
Abortion	147, 443, 663	Internal hemorrhages, 591,	616.	Tonic powder	255	rearing early	362	Carbolic acid solution	495
Abnormal abscess	286	Irritation of mouth	652	Too little kidney action	320	Clovers as honey produc-	339	for disinfecting	495
Abscess in ear	112	of stomach and bowels	180	much appetite	147, 672	ers	227, 267, 299, 339	Celery culture, success	366
on fetlock joint	146	of kidneys	550, 627	Too much uric acid in	87	Cockerel, handling the	131	in	366
on side	353	of laminitis	519	urine	87	new	131	growing with fertiliz-	493
Acidity of stomach	442	Itchy anus	601	Torpid liver	285, 287	Colony, treating weak	391	the old vs. the new	290
Acute indigestion	265, 408	condition of shin	112	Treating barren mares	643	and queenless	391	Children to garden in-	454
Aenemic	6, 218	Joint disease	636	Tuberculosis	320	Constitutional vigor,	266	stead of working in	454
Alsike poisoning	442	Kicking horse	472	Tuppor on cord	543	breeding for	266	mills	454
Azoturia	353, 409, 502	Knee-sprung	472	Udder tumors	353	Credit due poultryman	227	Community organization,	81
Barbed wire cut	354	Knuckling	265, 472	Umbilical hernia	408, 442	who tries	227	example of	81
Barrenness, 86, 113, 320,	354, 601, 636.	Lameness	56	Unhealthy skin	672	Day-old chicken trade	226	Co-operation among the	229
Barren cow, 55, 146, 180,	285, 519.	Laminitis	519	Unthrifty colt	601	Ducklings, hatching and	474	grape growers of	229
mare	286, 442	Laryngitis	147	condition	285	rearing	474	New York	229
sow	286	Lazy liver	353	pigs	472	Ducks, about feeding	505	Cucumber growing	559
Billiousness	408	Lecorrhea, 112, 113, 146,	616, 636.	expensive cow feed	528	young	505	Cultivation needed more	588
Blackleg	217, 320, 443	Lice	112, 218	Oats, can we afford to	181	growing for market	539	in garden than corn-	588
Black teeth	672	Light milker	146	feed	181	Egg eating, a tried rem-	391	field	588
Blind staggers	672	milking mare	520	feeding	181	edy for	391	Cutworms in young or-	604
Blocked udder	502, 519	Liver abnormal	408	Oleo and dairy interests	148	color of	131	chards	604
Bone spavin	472, 627	disease	56	Dr. Wiley's opinion of	148	color of	131	Farm garden, planning	229
Bowel looseness	443	Looseness of bowels, 87, 113,	286, 354, 526, 627.	Dr. Wiley's opinion of	148	color of	131	the	229
Broken wind	443, 652	Loss of appetite, 86, 353,	408, 443, 663.	Dr. Wiley's opinion of	148	color of	131	suggestion for starting	342
Brood mare has worms	409	vision	353, 408, 601	Dr. Wiley's opinion of	148	color of	131	Fertilizers used liberally	511
in poor condition	409	power	502	Dr. Wiley's opinion of	148	color of	131	in garden	511
stocks	643	Lumbago	409	Dr. Wiley's opinion of	148	color of	131	Fruit and ornamental	366
Bruised abdomen	663	Lymphangitis	354	Dr. Wiley's opinion of	148	color of	131	trees, the impractical	630
elbow	643	Lump jaw	179, 265, 519	Dr. Wiley's opinion of	148	color of	131	planting of	630
shin	353	Lumps on skin	56	Dr. Wiley's opinion of	148	color of	131	business, future of	559
thigh and hip	218	Malignant wart	550	Dr. Wiley's opinion of	148	color of	131	notes	205
Bunch on hock	616	Mammitis	147	Dr. Wiley's opinion of	148	color of	131	show at M. A. C.	204
Bunch on hock	616	Mange	203, 265	Dr. Wiley's opinion of	148	color of	131	trees should be kept	431
stifle	113	Mare does not come in	354	Dr. Wiley's opinion of	148	color of	131	from garden	431
hind leg	146	heat	354	Dr. Wiley's opinion of	148	color of	131	Fungicides, comparison	493
Bursal swelling, 442, 627,	652.	sleeps standing	112	Dr. Wiley's opinion of	148	color of	131	of	493
Calf scours	488	Mechanical throat trou-	636	Dr. Wiley's opinion of	148	color of	131	Garden, in the	588
Caked bag, 87, 287, 443, 574	488	ble	636	Dr. Wiley's opinion of	148	color of	131	insect pests of	682
Calked	86	Melanotic tumors	6, 616	Dr. Wiley's opinion of	148	color of	131	legumes, the	291
Canine distemper	55, 616	Milking cows before cal-	87	Dr. Wiley's opinion of	148	color of	131	novelties	134
Canker	265	ving	87	Dr. Wiley's opinion of	148	color of	131	plowing the	540
Care of new born colt	353	Milk shrinkage	472	Dr. Wiley's opinion of	148	color of	131	plan	511
Catarrh	112, 286	Mud fever	652	Dr. Wiley's opinion of	148	color of	131	seeds, securing good	157
Choking, 55, 112, 179, 286,	320.	Mule coughs	627	Dr. Wiley's opinion of	148	color of	131	soil, how to make rich	77
Chronic cough, 443, 472,	519, 606, 652.	Nail puncture	56	Dr. Wiley's opinion of	148	color of	131	suggestions	159
heaves	218, 554	Nasal catarrh, 6, 265, 353,	443.	Dr. Wiley's opinion of	148	color of	131	the farm	205
hip lameness	550	gleet	56, 354	Dr. Wiley's opinion of	148	color of	131	home	366
garget	146, 472, 627	polypus	56	Dr. Wiley's opinion of	148	color of	131	Grafting wax, formula	454
grease heel, 180, 320, 616	488	Naval infection, 87, 472, 636	56	Dr. Wiley's opinion of	148	color of	131	for	454
laminitis	112, 353	Nervousness, 6, 87, 147, 409,	543.	Dr. Wiley's opinion of	148	color of	131	Grafts, how to make in-	76
looseness of bowels	203	Nodular disease, 55, 354, 409,	443, 472.	Dr. Wiley's opinion of	148	color of	131	teresting	76
sore shoulder	472	Obstructed tear duct	286	Dr. Wiley's opinion of	148	color of	131	Grape for the north	495
Coffin joint lameness, 47,	180, 443.	teat	663	Dr. Wiley's opinion of	148	color of	131	pests controlled	630
Cold abscess	472	teat	663	Dr. Wiley's opinion of	148	color of	131	Home-made sprays, ex-	39
Colic	287, 408, 526, 574	teat	663	Dr. Wiley's opinion of	148	color of	131	periments with	39
Collar gall	627	teat	663	Dr. Wiley's opinion of	148	color of	131	care of	268
Congestion of lungs	217	teat	663	Dr. Wiley's opinion of	148	color of	131	Hyacinth bulbs, handling	431
of brain	643	teat	663	Dr. Wiley's opinion of	148	color of	131	after flowering	431
Corns	443, 616	teat	663	Dr. Wiley's opinion of	148	color of	131	Insect pests of the gar-	630, 637, 666
Constipation	87, 179	teat	663	Dr. Wiley's opinion of	148	color of	131	den	630, 637, 666
Contagious abortion, 147,	353.	teat	663	Dr. Wiley's opinion of	148	color of	131	Insects, catching	365
catarrh	55	teat	663	Dr. Wiley's opinion of	148	color of	131	notes on	365
Contraction	354	teat	663	Dr. Wiley's opinion of	148	color of	131	Intensive vs. extensive	291
Cough	218, 265, 320, 591	teat	663	Dr. Wiley's opinion of	148	color of	131	methods in the farm	291
Cow eats wood	442	teat	663	Dr. Wiley's opinion of	148	color of	131	Late spraying for scales	511
leaks milk	147, 627	teat	663	Dr. Wiley's opinion of	148	color of	131	Lawn, caring for the	563
fails to come in heat	472	teat	663	Dr. Wiley's opinion of	148	color of	131	Leasing orchards as a	209
gives bloody milk	601	teat	663	Dr. Wiley's opinion of	148	color of	131	business	209
sucks other cows	472	teat	663	Dr. Wiley's opinion of	148	color of	131	Lettuce disease, a ser-	230
with five teats	502	teat	663	Dr. Wiley's opinion of	148	color of	131	ious	230
Cow-pox	672	teat	663	Dr. Wiley's opinion of	148	color of	131	Lime-sulphur, as a fun-	588
Cracked heels, 87, 113, 203,	265, 354, 574, 643.	teat	663	Dr. Wiley's opinion of	148	color of	131	gicide	588
Cramps of muscles, 354	502.	teat	663	Dr. Wiley's opinion of	148	color of	131	is it injured by freez-	386
Crib biting	472, 502	teat	663	Dr. Wiley's opinion of	148	color of	131	ing?	386
Crippled pigs	217	teat	663	Dr. Wiley's opinion of	148	color of	131	not a remedy for bor-	454
Dead lambs	472	teat	663	Dr. Wiley's opinion of	148	color of	131	ers	454
Dehorning cows	113	teat	663	Dr. Wiley's opinion of	148	color of	131	Moisture, handling soil	132
Destroying horns	567	teat	663	Dr. Wiley's opinion of	148	color of	131	to save	132
Difficult parturition	354	teat	663	Dr. Wiley's opinion of	148	color of	131	Native vines, some beau-	206
Diabetes	218, 285, 652	teat	663	Dr. Wiley's opinion of	148	color of	131	tiful	206
Diarrhoea	663	teat	663	Dr. Wiley's opinion of	148	color of	131	New York fruit growers'	96
Diseased kidney	483	teat	663	Dr. Wiley's opinion of	148	color of	131	convention	96
tail	591	teat	663	Dr. Wiley's opinion of	148	color of	131	Odd paragraphs	430
tooth	286, 354	teat	663	Dr. Wiley's opinion of	148	color of	131	Onions, a good system	283
Distemper	6, 591	teat	663	Dr. Wiley's opinion of	148	color of	131	for growing	283
Dropsical swelling	354	teat	663	Dr. Wiley's opinion of	148	color of	131	growing on creek flats	288
Dropsy, 180, 218, 353, 408	488	teat	663	Dr. Wiley's opinion of	148	color of	131	maggots, controlling	290
Eating feathers	409	teat	663	Dr. Wiley's opinion of	148	color of	131	Orchard cultivation	593
Elbow abscess	502	teat	663	Dr. Wiley's opinion of	148	color of	131	maintaining a profit-	682
Enlarged fetlock joint	616	teat	663	Dr. Wiley's opinion of	148	color of	131	able	682
gland	652	teat	663	Dr. Wiley's opinion of	148	color of	131	management, methods	365
hock	179	teat	663	Dr. Wiley's opinion of	148	color of	131	of	365
Epilepsy	643	teat	663	Dr. Wiley's opinion of	148	color of	131	Peach buds and low tem-	494
Eversion of vagina	6	teat	663	Dr. Wiley's opinion of	148	color of	131	peratures	494
Exzema, 203, 443, 601, 616	488	teat	663	Dr. Wiley's opinion of	148	color of	131	draining land for the	494
Exostosis	526, 636	teat	663	Dr. Wiley's opinion of	148	color of	131	renewing trees	158
on shin	56	teat	663	Dr. Wiley's opinion of	148	color of	131	scab, controlling the	159
Farcy	146	teat	663	Dr. Wiley's opinion of	148	color of	131	yellows and little	666
Feeding brood mare salvage	56	teat	663	Dr. Wiley's opinion of	148	color of	131	peach	666
oats	56	teat	663	Dr. Wiley's opinion of	148	color of	131	Pears, growing the	510

Spray, proper time to.....558	High cost of living.....412	In the days of the stage coach.....119	Herring-bone stitches .. 42	Some advantages of belonging to Farmers' Clubs.....631, 667	planting scenes521
Spraying apples.....340	in France.....60	Influences at work on country boys.....535	Hired man on the farm.....483	Special feature song.....301	show, Wexford Boys'.....169
for canker worm.....431	Highway question, the.....360	Jane's May-basket.....532	Hobbies.....483	work.....455	Agricultural Club.....169
notes on.....159	Honesty is the best policy.....224	Lincoln, the tomb of.....164	Home queries.....196	summer.....487, 605	Coronation braid.....192
progress in.....157	How much money have you made?.....530	Little farm fables, 479, 561	makers, helps for.....564	The motto card and the boys and girls.....199	Cross-stitch patterns, 420, 483
suggestions on.....430	Imported seed, quality of.....618	Longfellow, Henry Wadsworth.....239	Housecleaning in country homes.....512	What benefit is derived from Farmers' Club?.....645	Cultivating the corn crop.....669
why it may fail.....269	Increase in agricultural wealth.....578	Making pictures without a camera.....579	Household accidents.....303	the local Clubs are doing, 40, 79, 167, 231, 271, 301, 429, 455	Dairy chart showing the profit in cows.....149
Stone fruits, the culture of.....289	Initiative in agriculture.....508	Manxland—beautiful Isle of Man.....61	Human welfare queries, 304, 330, 371, 393, 419, 459, 484, 513, 537, 563, 584, 609, 623, 660, 681	Yearly programs, 167, 330, 429, 455	Deland, Margaret.....66
Storing fruit in Russia.....207	Is separation of taxes desirable?.....116	May-time festival—present and past.....533	I can't vs. I won't.....536		Draft mares and colts—Plank & Newsome.....465
Strawberries, system of planting.....494	Keep out fungous diseases.....184	Meadow lark, the.....531	Ice box, a spring.....331		Draft sire of quality.....53
Strawberry, harvest the.....637	Keeping boys and girls on the farm.....654	Memorial day and the Huxtables.....579	If you can cook potatoes and eggs you can cook anything.....16		Drinking fountain, a home-made.....20
season, moisture problem during.....637	Lake levels and agriculture.....294	Mission of the fresh air kiddies.....620	Independent parents best in old age.....305		Dust bath, the.....1
Tools needed in garden.....366	Live stock meeting, dates for.....36	Naughty Peter Rabbit.....582	Jacket, three pointed.....123		Eggs to be rejected for hatching.....154
Tramp snow about young trees.....230	Looking on the bright side.....152	Old missions of California.....117	Kitchen boiler in cold weather.....193		Electric alarm bell.....15
Vegetables, nature's storehouse for.....38	Markets, study the.....676	Only a broken heart.....309	Knitted shirt for baby.....537		Ewe and four lambs.....599
some experiences in forcing.....77	Meat supply, the country's.....412	Origin of colors in Yellowstone park.....657	Know thyself.....419		Farmhouse of T. E. Hasen.....139
Warning to farmers.....205	Michigan's taxation problem.....10	Outwitted.....647	Left-overs.....163		Farm team of Andy Woods.....615
Western New York Horticultural Society.....158	Money trust, the.....244	Peasant life in Macedonia.....619	Letter box, 123, 194, 332, 460, 563, 584, 659		Flies, how to hear walk.....582
Will organize for market purposes.....288	New business in our foreign trade.....530	Peons of Mexico, among the.....415	Locating beds with reference to sunlight.....193		Four-horse team and gang plow of E. F. Chapin.....613
Winesaps, thinning.....205	Oleomargarine legislation postponed.....448	Pettibone Webster prize, the.....560	Mamma will you hold me?.....659		of P. J. Spaulding.....401
Winter-killed trees, the treatment for.....540	Parcels post legislation, 476, 618	Preservation of trees.....677	Meat curing.....196		on disk horror.....401
Wounds, cure the.....364	progress of.....654	Southern Lexington—last home of Gen. Lee.....255	Michigan Farmer patterns, 17, 43, 124, 196, 235, 260, 305, 372, 394, 459, 484, 513, 564, 609, 624		Fruit show at M. A. C.....204
	letter day.....324	Spelling match, a statewide.....253	Native ingenuity.....259		General Lee's office and horse.....255
	People and the schools.....676	Starkey's prize story.....325	Nerves is no excuse for temper.....98		Gifts, last minute.....370
	Planning the season's campaign.....60	Teacher of Louisiana May Alcott.....190	Novel table "linen".....68		Gown, bordered.....482
	Potato industry, a new phase of the.....224	The game John found.....44	Old furs and their uses.....42		Grandma's Easter lilies.....413
	situation, the.....324	The little brown bird.....656	Ounce of prevention, the.....513, 562		Hampshire lambs, winners at Smithfield show.....351
	Presidential preference primaries.....360	The Valentine that grew.....165			Hand-bag of Irish crochets.....660
	Prizes for junior corn growers.....618	Two strong-willed men.....11			Hartman Simon B.....252
	Production cost of wool.....10	Water music.....622			Herring-bone stitches.....42
	Profitable agriculture means prosperity.....618				Hog business, growing into.....651
	organization, a.....92				Holstein cow, Daisy Grace De Kol.....551
	Road improvement in the United States.....252				Pontiac De Nijlander.....426
	the reader's duty in.....224				Horses, temperamental types.....571
	question again, the.....92				Hotbed.....268, 269
	Roads, the problem of.....448				Isle of Man, views on, 61 63
	Round-up institute dates.....184				It pays to do right.....199
	Rural carriers to feed birds.....60				"King Corn," farm of Franklin Kent.....49
	Saying time and labor on the farm.....184				King road drag.....434
	School pointers, some pertinent.....640				Kite plans for box.....479
	Scope of farmers' institute work.....224				Labor saving devices for bee yard.....625
	Seed, good vs. poor.....360				Laidwork.....234
	Separation of state and local taxes.....92				Leghorns, pen of S. C. Brown.....538
	Shoddy question, the.....476				Like herself.....680
	Solving the road problem.....36				Lincoln monument, at Springfield, Ill.....164
	Special institute train.....654				Macedonia, scenes in.....619
	sessions, net results of.....412				Maple sugar, making in the open.....275
					Massengale, John.....11
					Meadow larks, nest and young.....531
					Mexican peon habitation.....415
					Northern Spy orchard of N. B. Hayes.....209
					Oats, graded as to quality.....241
					Old missions of California, views of.....117, 119
					Olsen, O. A., farm of.....649
					Orchard, cultivation of.....593
					of Frank Edgcomb.....540
					Peppers, Mr. Smith's garden.....38
					Post office on water.....655
					Potatoes, big load of.....345
					seed for picking.....346
					Potato-tomato plant.....76
					Poultry houses in orchard.....289
					Prints made without camera.....579, 582
					Punched work centre-piece.....16
					pillow.....16
					Rambler rose embroidery.....302
					Rape on barley stubble.....497
					Rhode Island Red hen.....298
					Rice, Elijah E.....11
					Roads, Wayne county.....25
					Roller, a home-made.....132
					Root system of corn plant.....669
					Seed corn rack and testing box.....467
					Shorthorn heifer, winner at Smithfield show.....525
					steer, winner at Smithfield show.....381
					Silo for fattening cattle.....545
					Spelling match, participants in.....253
					Six mule team, Chaffee Bros.....633
					Southdown wethers, winners at Smithfield show.....471
					Stage coach, in the days of.....119
					Strawberries, system of planting.....494
					Sugar beets, good crop of.....377
					The farmer of the future, tableau.....40
					The fir tree's new gown.....187
					Tile levelling and laying.....273, 275
					Tomatoes, a typical load of.....81
					Toy boat.....533
					Tree-lined street.....479
					Trees, preservation of.....477
					Turkey, Bourbon Red.....200
					White Holland.....74, 418
					Upper peninsula cabbage patch.....18
					Vines planted about the porch.....569
					Where interest originates.....621
					White clover plant.....227
					Women's Building, M. A. C., shop and kitchens of.....392
					Wyandottes, silver laced.....450