

# MICHIGAN FARMER

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50 CENTS A YEAR  
\$2 FOR 5 YEARS.

## World Records Made by Michigan Cows the Past Year.

By PROF. A. C. ANDERSON.

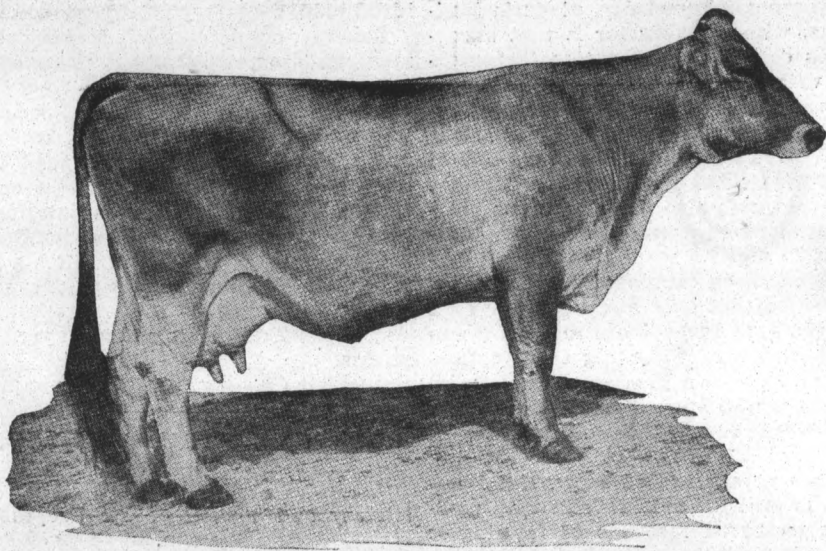
MICHIGAN'S significant position in the dairy world is little realized by her people. It is only when one travels over the major portions of the state and notes the character of the farm products that a sense of the vastness and variety of this great dairy business is borne home.

The farmers of Michigan are well aware that the great cornerstone of all dairy enterprises is the dairy cow and they firmly believe that an animal must be born unto profitable production, consequently they have spared no pains in the improvement of their dairy herds through the introduction of better breeding stock. This has been so successfully managed that for many years buyers of high-class cows of the several breeds have turned to this state for cattle. That their needs have been well supplied is shown by the large number of Michigan-born cows that have later come into producing prominence in eastern, western and Canadian herds.

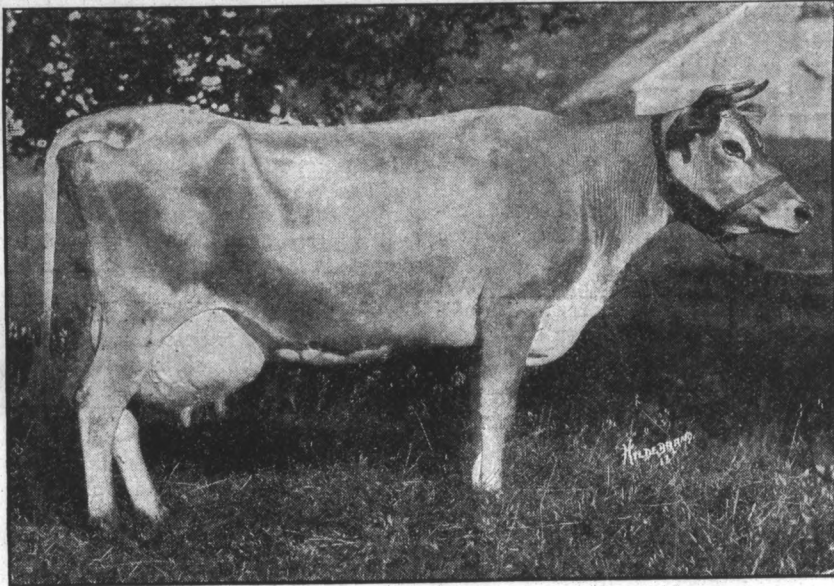
One should, however, not get the impression that the good cows have all been sold out of the state. The Advanced Register and Register of Merit reports show that the production of Michigan cows is increasing each year and that the reputations of the home herds are being fully sustained. During the past year four cows owned in Michigan belonging to three different breeds, have come into world record prominence. They are therefore worthy of more than passing comment.

### Eminents Bess.

The one worthy of first mention is the Jersey cow, Eminents Bess, 209-719, owned by W. S. Prickett, of the Roycroft Farm, Sidnaw, Mich. During the 365 days from September 12, 1912, to September 11, 1913, Eminents Bess produced 18,782.96 lbs. of milk, containing 962.9 lbs. of butter-fat, the average per cent of fat being 5.126. Figured on an 80 per cent butter-fat basis this would be equivalent to 1203.6 lbs. of butter. The age of the



College Bravura 2d, a Brown Swiss Cow with a World's Record of Nearly 1,000 lbs. Butter in Twelve Months.



Eminents Bess, the World's Record Jersey Cow for Yearly Production of Butter.

cow at the beginning of the test was six years two months.

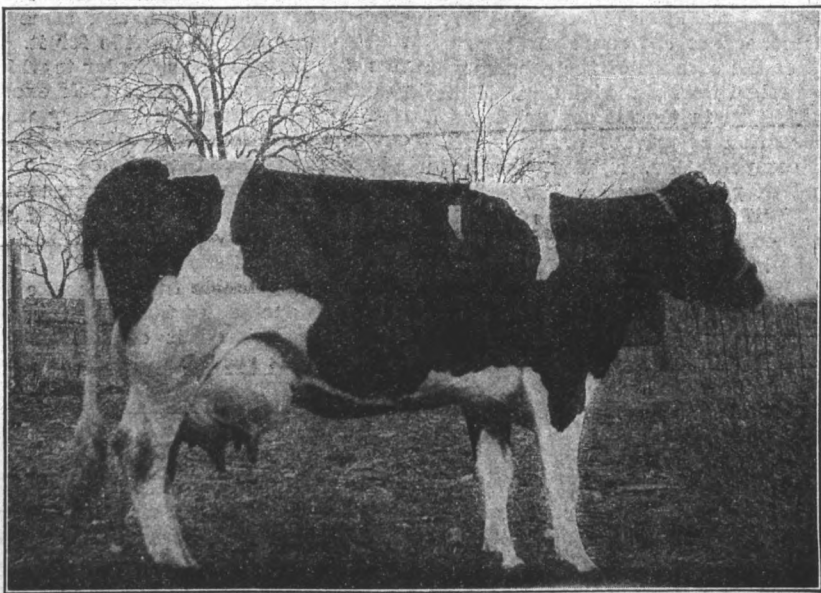
In making this record Eminents Bess surpassed all other cows of the Jersey breed and today holds the world's record for yearly Jersey production. It is worthy of mention that in making this record Eminents Bess not only surpassed the high record cow of her own breed, namely Jacoba Irene, but she also surpassed the record of the world's record Guernsey cow, Spotswood Daisy Pearl, 17696, both in pounds of milk and in pounds of butter-fat.

At the present time this cow holds the state record for semi-official yearly production of butter-fat. She also holds the state records for breed for both milk and butter-fat.

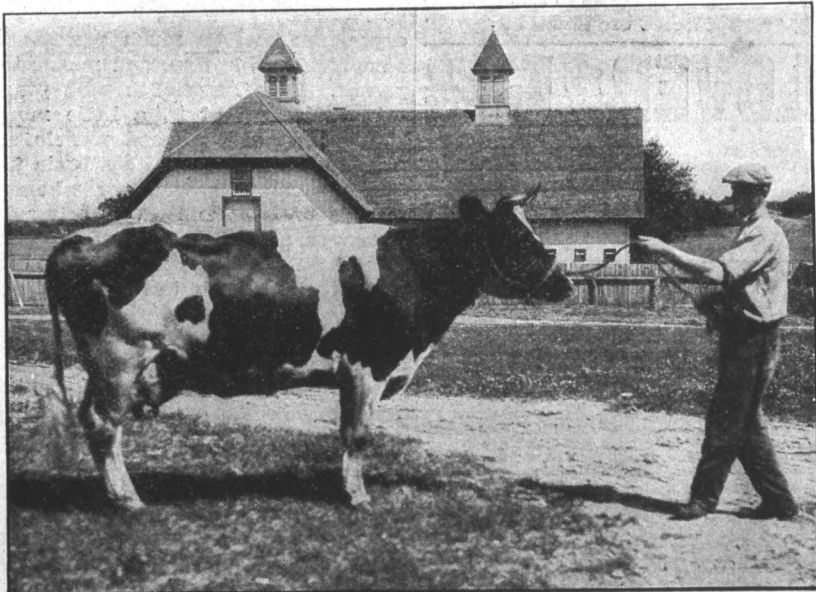
### Traverse Princess Weg.

The second cow in the list is the Holstein-Friesian cow Traverse Princess Weg, 106215. This cow began her year's work November 26, 1912, and for the first 182½ days was under constant supervision of inspectors appointed for official testing. During these first six months of her year she produced 16,202.9 lbs. of milk, containing 562.584 lbs. of fat, equivalent to 703.23 lbs. of butter. This is the world's official record for 182½ days. During the remaining 182½ days she was tested under the rules for semi-official work and produced as a total for her entire year's work, namely a period of 365 days, 24,657.4 lbs. of milk, containing 898.932 lbs. of butter-fat, equivalent to 1123.665 lbs. of 80 per cent butter. The age of this cow at beginning of her test was five years, four months, nine days. Traverse Princess Weg was born at the Traverse City State Hospital and performed her year's work at that institution.

At present this cow holds the following state records for full aged cows: Seven-day official milk record; 30-day official milk record; 60-day official milk and butter-fat record; 90-day official milk and butter-fat record. (Continued on page 232).



Pontiac DeNijelander with a World's Milk and Butter Record for Three Successive Years, both in the Seven and Thirty-day Classes.



Traverse Princess Weg as she looked Nine Months after Calving. She Holds the World's Butter Record for 182½ Days.



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## Efficiency On The Farm.

In these days of severe competition and specialization, efficiency is the keynote to success in any business. It is not the man who knows the most or the man who works the hardest that succeeds. Both knowledge and hard work are necessary, but must be properly applied. Otherwise they fall short of efficiency and take their rank among the qualifications of common labor. Many a man has spent his lifetime in drudgery and hard work for little more than six square feet of graveyard sod. Many another has filled his head with the latest knowledge pertaining to his business but has lacked the methods of proper application of that knowledge. He also frequently makes a failure of life, although his chances for success are greater than without the acquired knowledge.

Thorough knowledge of one's business, with a liking for it that stimulates correct application to it, together with untiring enthusiasm and hard work, will bring success in any reasonable venture.

We see men in almost every line of business who are working without success, and also those who are plugging along in a half-hearted way, content to make a mere living.

It has been estimated by various authorities that only about ten per cent of the men in business make a financial success. According to this statement there is a greater percentage of farmers who are successful than those who are engaged in other lines of work.

The percentage of successful farmers is still far too low and with modern improved methods of farming it should be greatly increased. There is no place where accumulation of machinery, vehicles, and rubbish is so natural as the farm. The unsightly appearance of such a conglomeration in a farm yard greatly detracts from the farm, and the deterioration of machinery so kept is almost inestimable in our humid climate. The efficiency of machinery and farm vehicles, therefore, depends upon the shelter and grease which they receive.

The efficiency of horses depends upon the fit and care of collars, proper feed, water and care. Plenty of bright timothy hay, good corn and oats, and careful handling will increase the efficiency of any team 100 per cent over and above poor and rough treatment by incompetent men.

The difference in efficiency induced by good care and feed, or lack of it, is far greater in the highly developed dairy cow than in the case of the horse.

The efficiency of the farm in crop production depends on preparation of seed bed, application of humus, seed selection and cultivation.

Efficiency on the farm, therefore, depends entirely on the man. He should be intensely practical, have plenty of experience and as much agricultural education as his time and means will permit. This knowledge with practical application of it, a little money rightly invested, a good muscle and willingness to work, with a brain that can scheme to save labor wherever machinery can do it, will bring efficiency on any farm.

Just an ordinary man doing ordinary work is likely to starve out on a farm. A man may win his point as a lawyer or salesman by nerve and bluff, but nothing less than quick application of practical knowledge when necessary in the care and harvest of each crop will bring results on a modern farm.

The average farmer is spreading himself over too much land, trying to do too much, and lacks thoroughness in all of his farm operations. For instance, in the spring of the year while the land is being plowed, the milk is improperly cooled and handled and a low price is the result. The fruit

trees are often sprayed two or three days too late, and half of the crop may be lost. If the spraying is done at the right time, but is followed by a heavy rain, it should be repeated the following day. If spraying is done at the proper time for the codling moth, just as the blossoms fall, and no previous spraying is done for the stem fungus, the fruit may be mostly destroyed before your spraying is done.

As efficiency is the keynote to success, so thoroughness is the keynote to efficiency. We cannot be thorough and do too much. Neither can we be thorough and depend too much on hired help. We must, therefore, farm less and more thoroughly. Efficient farming on thirty acres by the owner may be made more profitable than slipshod farming on 100 acres with hired help.

General or diversified farming is more or less profitable but the greatest efficiency is not accomplished in more than one or two lines. Specialized farming should include several crops but everything should bend to one object; making money from one branch of farming, such as dairying, horticulture, stock raising or poultry.

Thus the hundreds of Michigan farms that are now barely paying expenses can only be made profitable and efficient by systematized specialization.

Oakland Co. C. W. MELICK.

### THE TORRENS LAND TITLE SYSTEM.—IV.

#### History and Theory of the Proposed System.

The so-called Torrens system of land registration originated in Australia, the place from which we imported our present election laws, and takes its name from its author, Robert Torrens. He was born in Cork, and migrated to South Australia in 1841. He was not a lawyer, but became familiar with the shipping laws by being collector of customs. It is said that the starting point of his land registration system was the application of the system of ship registration to land transfers. He suggested the plan to the provincial legislature in 1850, but it failed to pass. It was passed into law in 1858, and became so popular that it soon spread to the rest of Australia, New Zealand, and finally to England. Within the last ten or fifteen years it has been adopted in a number of our states, including California, Massachusetts, Minnesota, Oregon, Illinois and Colorado.

Immediately on its introduction to this country it was attacked on constitutional grounds. The first Illinois statute was held unconstitutional on the ground that it was an attempt to delegate official powers to the registrar of titles; but this objection was obviated by a later statute, and even in Ohio, where the court at first stated that the essence of the scheme was impractical and in violation of the constitution in that it contemplated a confiscation of private property without compensation, a way has been found of putting such a law into effect. With these exceptions the plan has been approved by the courts in all the states where it has been tried, it is believed.

The details of the laws of the different states differ. But all of them involve substantially the same idea, which is as follows:

Certainty of titles, ease of proof, and simplicity of dealing with the title when proved. This is to be done by making everything depend on the record, and that on one page, regardless of all former records. To accomplish this the first step is to get the title into the system. This is started by an application to the land registration court, by someone claiming to be interested in the title, to

have it registered under the new system. This being done, notice is sent and personally served on all persons known to have or claim any interest in it, so far as they can be found, or notice by mail is sent to their last known post office address if they cannot be personally found, and then notice for several weeks is published in some paper having a general circulation in the county where the land lies, describing the land, giving the names of the occupants, all known claimants, and commanding all persons having or claiming any interest in the land to appear within a specified time to make known their claims to the land. After time has passed for all persons to appear and maintain their claims the court proceeds to pass on the title and render judgment as to the ownership, and this in the absence of contest is a very simple matter. If there is a contest and either party is dissatisfied with the judgment rendered, he may appeal and have the case heard again in the higher court. If no appeal is taken the judgment rendered on the first hearing becomes final, and all titles not recognized by the judgment are absolutely and forever barred. Before this judgment is rendered the examiner of titles, who is to be an officer of the court, makes a very careful investigation of the old record, and reports to the court; and all parties desiring to give any testimony bearing on the title are given an opportunity to be heard.

Title to a piece of land being once thus registered under the new system, all future deeds, mortgages, and land contracts, are binding only between the parties as contracts until a new record is made, and the new record when made passes the title, and is the title. Title to land once put into this system could not be acquired by adverse possession nor in any other way than by making a new record. When the owner dies, and the estate is settled, and the will, if any, probated, application may be made to the land registration court for a new certificate and record of title; and this record when made is title as the old one was, conclusive and exclusive evidence of the right to the land. If at any time anyone desires to know the state of the title to land registered under this system, all that need be done is to inspect the one page where this last entry is made. There will be found all that is worth knowing or can be said concerning that title.

It was foreseen by the framers of this system that sometimes accidents would happen whereby a rightful title would be cut off by an erroneous decision, mistake, or oversight; and to provide against this it has commonly been provided that on each transfer a small fee should be charged, and that this money should be set aside by the state to accumulate a fund to provide reimbursement for any who should suffer without fault on his part through the operation of the law. This feature is not an essential to the operation of the scheme, and some of the statutes do not provide for it. It was this feature in particular to which the Ohio Supreme Court took exception as confiscation of property without compensation.

In order to put the scheme into operation generally within a reasonable length of time, the law should be made compulsory in certain cases, as on the death of the owner.

The indispensable thing to make the system a success is that when a title is once registered it can be passed only on that record.

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## The Farm Tenant House.

There has in recent years been a general recognition among progressive farmers of the relation between the farm labor problem and the problem of housing the family of the farm laborer on the farm. The building of farm tenant houses has, however, involved an expenditure which farm owners have naturally postponed as long as possible. Recognizing the need of many farmers along this line, the United States Department of Agriculture has recently begun a study of farm architecture, and last week made public the first of the plans developed as a result of that study; quite properly, this first effort of the Department in this direction relates to the farm tenant house. Regarding the plan evolved, the Office of Information of the Department submits the following:

The tenant house, perspective drawing and plans of which are shown, is a simple, four-cornered structure, with-

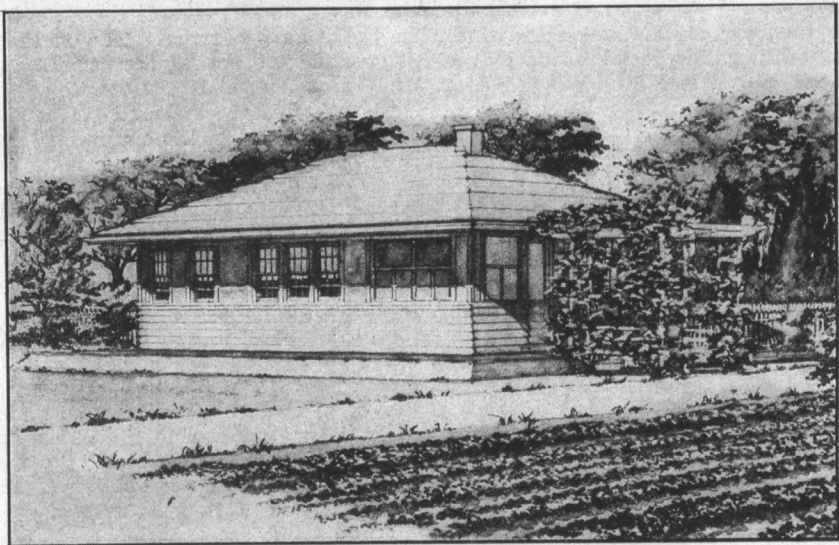
with three or four outside doors, only one door is much used and that one is either in, or near, the kitchen.

### The Kitchen.

Very few residences of any size or cost have a kitchen more pleasantly located, better lighted and ventilated, and more conveniently arranged than this little four-room house. It commands a view of the garden, the play grounds, the barns, the lawn, the gate and the highway.

The stove is well lighted and, with the porch window closed, it is out of the cross-drafts of air. It is within six feet of the most distant fixture in the kitchen and but little farther from the dining table. All stove utensils are within reach and the work table and the fuel in the box beneath it are but two steps away. The ashes drop from the fire box of the stove, through a short pipe to the ash bin beneath the concrete floor.

The walls of this under-floor bin are



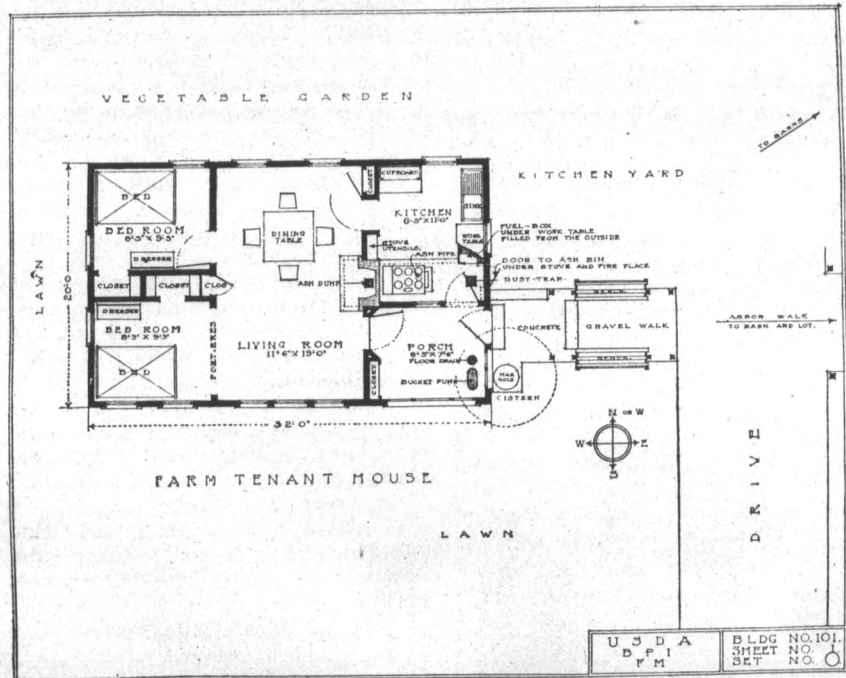
out bay windows, gables and dormers or any projection save the cornice, which overhangs and protects the walls and window openings. The house is planned for the smallest dimensions and the most inexpensive arrangement consistent with the needs and the convenience of a small family. It has but one chimney and but one outside entrance.

One entrance may be considered insufficient, but another door can be gotten into the plan only by a sacrifice of wall and floor space, which can not be spared, or by increasing the size and cost of the house, which in connection with this problem can-

shown on the plans by dotted lines. The bin is under the stove and fire place and extends to the outer foundation wall of the kitchen where the ashes and floor sweepings are removed by means of a long-handled drag. If the building is raised on a front terrace as shown in Fig. 2, the bin will be 26 inches deep with its floor at ground level.

The fuel box, supporting the table top, occupies space which might otherwise be wasted. It is filled from the outside of the house and emptied from the inside through a small door over the concrete floor.

A trap or dump, like that in the



not well be done. With this entrance nearest the barns and the entrance from the highway and treated as it is with the simple and inexpensive pergola and benches, which separate the lawn and the back yard, it should serve every purpose of a front door, and as well, also, a kitchen door. In many 10 and 12-room farm houses

fire place, is provided for floor sweepings and possible dust from the door of the coal or wood box. It is in the concrete floor, behind the kitchen door, near the fuel box opening and over the ash bin.

The water problem also has been carefully considered in this plan. Cistern water may be drawn from the

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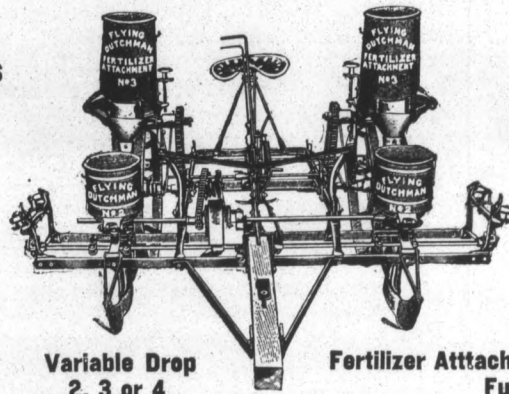
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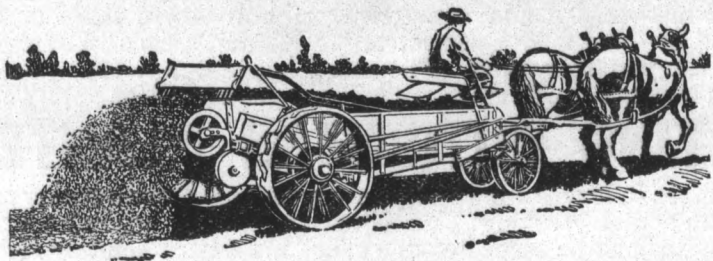
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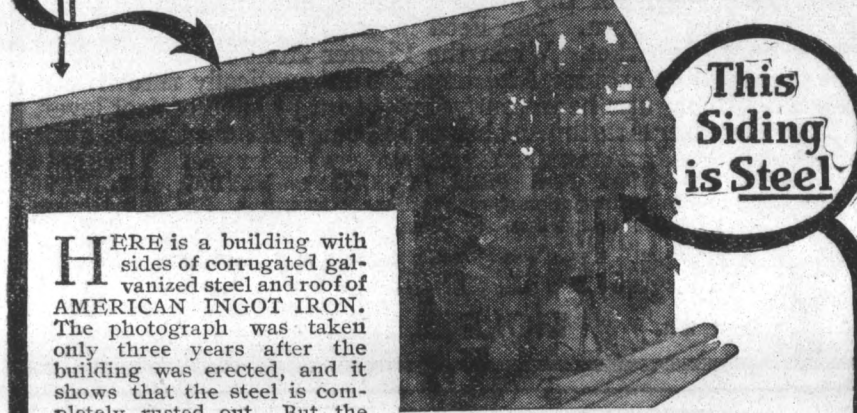
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bucket pump on the porch or, if desired, from a pitcher pump at the sink. Hot water is heated and stored in the reservoir of the stove. The sink, with only the drain pipe to be provided, is too inexpensive to omit from any kitchen and space enough has been saved in this one to more than pay for all such conveniences.

This little kitchen excels many others in not being a thoroughfare to other rooms. The men and boys will wash on the porch, leave their hats and rain coats there, and enter the living-room without disturbing the kitchen workers.

### The Porch.

The screened porch is as large as the plan will permit, but too small for all the purposes for which it will be in demand. Besides the usual kitchen work, the ironing and perhaps the clothes washing will be done here. The one screen door locks up the house, and butter, meat, and milk put on the porch to cool at night, will be secure against dogs and cats. The porch will be in demand also as a dining-porch, sitting-porch, sleeping-porch, and play room. Its uses and the comfort of the house in winter may still further be increased by putting in porch sash and a solid door.

### The Living-Room.

The living-room is large enough for the longest dining table that harvest days will ever require and, with its two routes to the kitchen, it is unusually convenient for feeding a large number of workmen. The cost of this little house will vary with local conditions but will be as low as is consistent with economic usefulness.

### FARM NOTES.

#### Sowing Plaster with Clover.

Would it be a good plan to sow red clover with a fertilizer drill, running seed in the drill the same as wheat and sowing land plaster with the seed, just as one sows fertilizer with wheat?

Oakland Co.

D. E. D.

It is doubtful whether land plaster sown at the time the land is seeded to clover would be of any particular benefit on some of our older soils. In an earlier day beneficial results were secured by sowing land plaster on new land, or at the time of seeding clover. This was due to the presence of unavailable mineral fertility, especially potash, in the soil which was changed to an available form for the use of the clover plants by chemical union with the land plaster. On most soils this particular combination of potash has long ago been converted, which is the reason that land plaster failed to give profitable results, and its use was practically discontinued.

It would be a better plan on most soils at present to apply lime as a preparation for the clover crop at the time the soil is being prepared for the grain crop in which the clover is to be seeded, or in preparing a field to sow to clover without a nurse crop. This will sweeten the soil and make it a more acceptable home for the bacteria for which the clover is a host plant. Experiment as well as experience has shown that much of the soil in the older counties of Michigan, particularly that of a sandy nature, is somewhat acid and requires the application of lime for best results with clover, while in many sections alfalfa cannot be grown at all without the use of lime. Often failures of clover are due to an acid condition of the soil when they are attributed to drought, as shown by the effect of applying ashes.

#### Smut in Oats.

I have had poor results with an improved variety of oats on account of the prevalence of smut. Had I better discard this variety and get new seed or can I prevent the smut by treatment of the seed?

Lenawee Co.

A. F. S.

Oat smut is a fungus growth which can be prevented by the treatment of

the seed. Spread the oats out on a tight floor and thoroughly spray with a solution of one pound of formaldehyde to 50 gallons of water, using about one gallon of this mixture to each bushel of oats, and shoveling this mass over to insure that all the kernels will be thoroughly wet, then shovel into a compact pile and leave for a couple of hours and spread out to dry. The treatment should not be given until just before sowing the crop.

#### The Locust Borer.

I would like advice about Black Locust seedlings. Have been told that the borers ruin them. Others told me that by painting from a little below the ground line to six inches above with white lead about twice a season it would keep the borers away. Locust seedlings did very well last year. Am also growing 500 catalpas for fence posts.

Wayne Co.

W. I. H.

The one practical method of protecting locust seedlings from the borer is to plant them with other kinds of timber which will afford shade for the young seedlings, in which case the borers do not trouble them nearly as badly as otherwise. The method suggested in the inquiry would be useless as a means of protection.

The eggs of the matured insect are deposited singly in the crevices of the bark of the common black locust. In about ten days these eggs hatch into larvae which make a slight excavation or cell in the bark of the tree, where they remain through the winter. Soon after the sap begins to flow in the spring the larvae become active and burrow through the bark into the wood. The larvae become full grown in a few months and change to the pupal stage about midsummer. A little later they come forth as an adult insect or beetle, which again begins the life cycle of another brood.

#### Methods of Potato Culture.

I would like the experience of some practical potato grower, in regard to depth of plowing; kind and amount of fertilizer to use; when best to apply the same; the best variety of late potatoes; the treatment of seed for scab; amount of seed per acre; time for planting; when to spray for blight, etc. The piece which I expect to plant to potatoes is 20 acres of heavy June grass sod.

Muskegon Co.

M. L. C.

It would be impossible to properly answer all the questions asked in this inquiry without a much more complete knowledge of local conditions. In the matter of depth of plowing for instance, deep plowing is best for the potato crop, which requires a deep and mellow seed bed, but it is inadvisable to plow deeply when a soil is deficient in humus. Thus, the depth of plowing should depend altogether on the nature of the soil. It might be advisable to plow it just a fraction deeper than has been the previous practice, if the soil is a shallow one, but where the soil containing humus is comparatively shallow, it is inadvisable to plow much, if any, deeper than in previous years.

With regard to the kind and amount of fertilizer to use, this will also depend not a little upon the soil. It will pay, however, to use fertilizer quite liberally with potatoes. Under normal conditions, 1,000 pounds per acre would not be too heavy an application, although few Michigan farmers use that much. The average Maine grower, however, uses considerably heavier applications than this, and the fact is reflected in the superior yields secured by Maine potato growers.

So far as variety is concerned, there is no one best variety of late potatoes, else others would be rapidly eliminated. It is best to plant the variety which has given the best results in your own locality, and experiment with other sorts on a small scale, instead of using them for the main crop.

The treatment of the seed for scab is simple, consisting in soaking the seed for one and a half hours in a solution of one pound of formalde-



hyde to 30 gallons of water. This should be done before the seed is cut, but not until about the time it is to be planted, unless it is very carefully dried after treating.

Spraying for blight should begin when the plants are about six inches high, which will be early in August, and continued at suitable intervals until the danger of attack is past, the number of sprayings required depending upon the weather conditions.

Heavy June grass sod of this character should be plowed as early in the spring as practicable, and cultivated freely until planting time, which, for late potatoes, is generally in June, most growers aiming to plant somewhere near the middle of the month.

#### Crop and Fertilizing Questions.

What depth should a fairly heavy clay soil be plowed on old land; this soil is productive but has never been plowed very deep? How much lime should be sown to acre where soil is acid and what is the best way to apply it? Where no manure is available is it advisable to sow fertilizer with oats and corn and barley? Farm has all the manure made and sell no hay or straw, but not enough to go over all the fields except once in 10 years. Can clover be seeded with oats and barley and be reasonably sure of a catch? I have failed with it several times when season was dry. I try to follow a four-year rotation in each field, using different crops in different fields as I have 200 acres. I always get a good seeding with wheat or rye, but am sometimes forced to seed with oats to maintain rotation.

Genesee Co. A. R. G.

The depth at which soil should be plowed depends upon several factors. If it contains an abundance of humus or vegetable matter, it may be plowed deeply to advantage, but a soil which contains little vegetable matter, and that contained in the top few inches of soil, should not be plowed too deeply. The depth of plowing in such a soil, however, can be increased gradually.

The amount of lime required to correct an acid condition of the soil depends upon the kind of lime used. Where ground limestone is used, liberal applications of from one and a half to two tons per acre could be used, and much heavier applications are advised by some of the best authorities. A smaller quantity of caustic lime will correct the soil acidity for the time being, but the results are not as permanent. The best way to apply lime is with a lime distributor made for the purpose, but it can be applied in any way which will secure fairly even distribution.

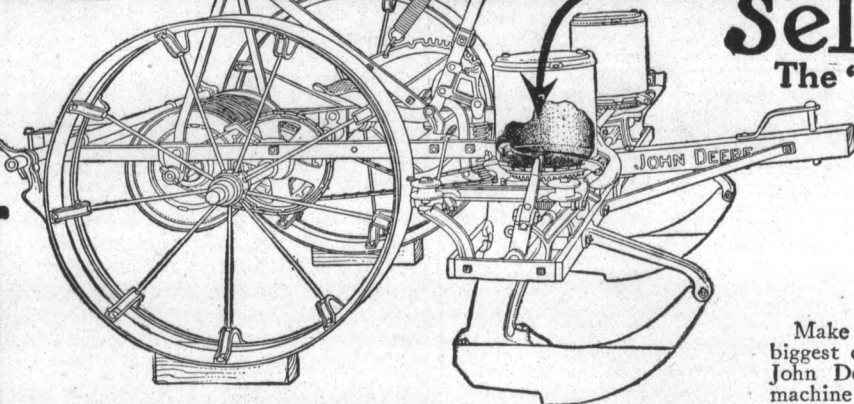
Small applications of fertilizer will be profitable with oats and barley, and more liberal applications can be profitably used with corn, say 200 lbs. per acre with the small grains, and 500 lbs. per acre with corn. Clover can be successfully seeded with either oats or barley, where the soil is in suitable condition to grow clover readily. This condition may be improved by liming where clover is seeded with oats, but oats should be sown rather thinly, from one bushel to one and a half bushels of seed being used per acre. Barley is considered one of the very best of the small grain crops with which to seed the clover, on account of the scant growth of straw.

#### Eradicating Wild Carrots.

I have an eight-acre field that I plowed last fall which is covered with wild carrots. This field was in hay four years. Would like to sow it to canning factory peas, plant it to corn or pea beans. Which would you advise me to plant to kill the wild carrots? I would like to sow the field to wheat next fall and seed with clover. St. Clair Co. SUBSCRIBER.

Any of the cultivated crops mentioned would be suitable for the eradication of the wild carrots from this field. If a thorough job of killing all which germinate is done, and the field is seeded to wheat next fall without plowing and then the soil is devoted to a short rotation of crops, the weed will not be very troublesome.

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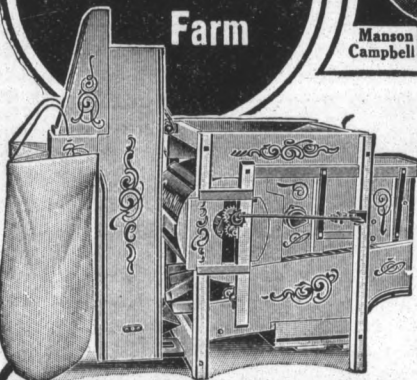
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all makers of Graders and Cleaners, except me, send the same equipment, whether you live in Maine, Ohio or Oregon. They wouldn't do that, if they had my 41 years' experience.

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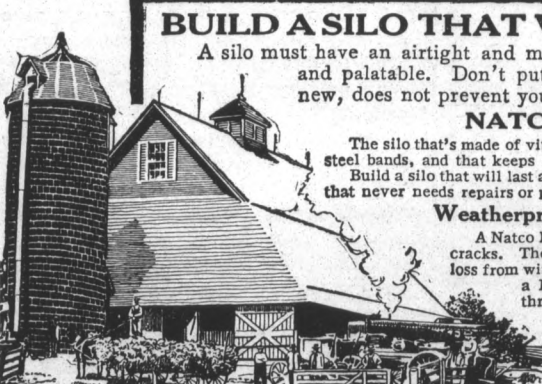
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The principle of maximum power on minimum fuel is exemplified to a high degree in the Mitchell Models for 1914 and the strength of axles, frame, springs and other important features is calculated to resist successfully and repeatedly the severe strains and jolts and twists of rough country roads.

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## Live Stock.

### ECONOMY IN PRODUCTION OF PORK.

Address delivered by H. G. Krum, secretary of the American Yorkshire Club, before the Michigan Improved Live Stock Breeders' and Feeders Association.

Since under present conditions we have no control over selling prices of our product, it is of the utmost importance that we do all we can to keep down the cost of production, in order to maintain or increase our profits. In these days of keen competition we must learn to analyze our business through all its details that we may change any practice that does not pay. We may introduce the same scientific and efficient management that big business has found so profitable. We must eliminate lost motion and waste in our breeding operations, in our feeding, and in our care of the hogs.

We must give our hogs sanitary quarters and be vigilant in keeping them free from disease, lice, worms, etc. We must provide pure, clean water, shelter from sun and storms, and mineral matter that our hogs may be comfortable and thrive at all times. We must plan our lots, pastures and buildings that we may save as much labor as possible. Some of these may seem like unimportant details, but it is just such details that make up the complete whole of successful hog growing. Cleanliness will often save us from an outbreak of the cholera with heavy loss. Vermin and worms are often responsible for unthrifty, slow-growing hogs and improper arrangements may easily increase the labor enough to add a half a cent a pound to the cost of production.

I do not intend to go into a discussion of breeding qualities at this time for everyone knows the importance of using brood sows and sires of good quality, just as we realize the importance of using good seed in the production of crops. There is one matter along this line, however, that deserves more attention and that is the relation of size of litter to the cost of production. Prepotency has more influence in our profits than any other quality. This is readily seen by glancing at the following table:

| Cost at Birth per head. | Cost at Weaning per head. | No. of Pigs per year. |
|-------------------------|---------------------------|-----------------------|
| \$11.87                 | \$13.69                   | 1                     |
| 5.91                    | 7.78                      | 2                     |
| 3.60                    | 5.47                      | 3                     |
| 2.85                    | 4.72                      | 4                     |
| 2.36                    | 4.23                      | 5                     |
| 1.97                    | 3.84                      | 6                     |
| 1.68                    | 3.55                      | 7                     |
| 1.48                    | 3.35                      | 8                     |
| 1.31                    | 3.18                      | 9                     |
| 1.18                    | 3.05                      | 10                    |
| .97                     | 2.94                      | 11                    |
| .98                     | 2.85                      | 12                    |
| .91                     | 2.75                      | 13                    |
| .84                     | 2.71                      | 14                    |
| .79                     | 2.66                      | 15                    |
| .74                     | 2.61                      | 16                    |

In preparing this table the cost of keeping the brood sow was added to the cost of boar service, interest on investment, etc., and charged up to the number of pigs farrowed. You will notice in the table that with a litter of four pigs, they cost \$2.85 per head while with a litter of eight pigs they only cost \$1.48 per head at birth. There is a saving of \$1.35 per head. If you market these pigs at about 200 lbs. weight you have a saving of over half a cent per pound. About a year ago I saw an estimate of what grade sows in the corn belt produced. This estimate gave the average litter at less than four pigs. I have data at hand showing the average of 21,652 litters of one of our pure breeds to be 9.26 pigs; the average of another lot of 39,812 litters of another pure breed to be 7.25 pigs; the average of still another of 1408 litters of another pure breed to be 10.61 pigs to the litter. It should be readily seen from these

facts that we should not be satisfied with small litters. We should no more keep a pig that produces less than eight pigs to the litter than we should keep a dairy cow that produces less than 150 pounds of butter per year. Then, in selecting our breeding stock let us bear this in mind and save only those animals that are out of large litters. In selecting for large litters we must, of course, consider that with increased number of pigs we must have better development in other ways. The sows especially must be long and deep bodied, with strong backs. They must be good mothers with great milk capacity. There is no question but that the matter of prolificacy is by far the most important thing for the breeder to consider.

We will next consider some things in regard to feeds whereby we can save expense and increase growth. Too many hog growers still grow their hogs in the dry lot or pig pen, using no pasture, no green foods or no cured forage in the winter. Too many keep their store sows in small yards, feeding an all-grain ration. For this reason, I wish to confine the discussion largely to the value of forage crops for swine.

First, to consider brood sows: It has been out practice to provide good pasture for sows, both while nursing and after weaning the litter. But after the litter is weaned we do not feed any grain. We usually have clover pasture or if that is not available we furnish a rape pasture. Sometimes if the pasture gets short we have to make up the deficiency with grain. With good pasture, however, no grain is necessary to keep the sows in good shape, in fact, they will often make good gains. Your station here reports a gain of half a pound a day with dry sows on rape pasture. At the University Farm in Minnesota, we find the following report of what dry sows did on pasture.

One acre of rape replaced \$14.57 worth of grain.

One acre of sorghum replaced \$5.67 worth of grain.

One acre of oats, peas and rape replaced \$11.75 worth of grain.

It is not only cheaper to run your dry sows on pasture but more healthful and this helps produce large, healthy litters of pigs. Not only do we feed forage in the summer in the form of pasture, but we use it in the winter. We provide roomy hay racks in which we feed alfalfa or clover. We sometimes use leaves or cut clover in the slop to take the place of considerable grain. We find that the sows will use large quantities of all kinds of roughage. It is a good plan to have some bundle oats for a change, or unthreshed peas. Such feeds not only supply roughage but afford exercise to the sows in working it over. Store sows will make as good use of pasture and cured forage as any other class of hogs. However, growing pigs will also make good gains on such feed as the growing period is from five to eight months, they will use more per head than even the store sows. Large thin hogs that are being fattened will only use a very limited amount of either pasture or cured forage to any advantage.

(Continued next week).

### FEEDERS' PROBLEMS.

#### Ration for Farm Horse at Full Work.

Would like to know what would be a good ration for a farm horse weighing 1200 lbs., when doing heaviest work in the summer. I have red clover hay, rye meal and oats, and can buy bran at \$1.25 per cwt.

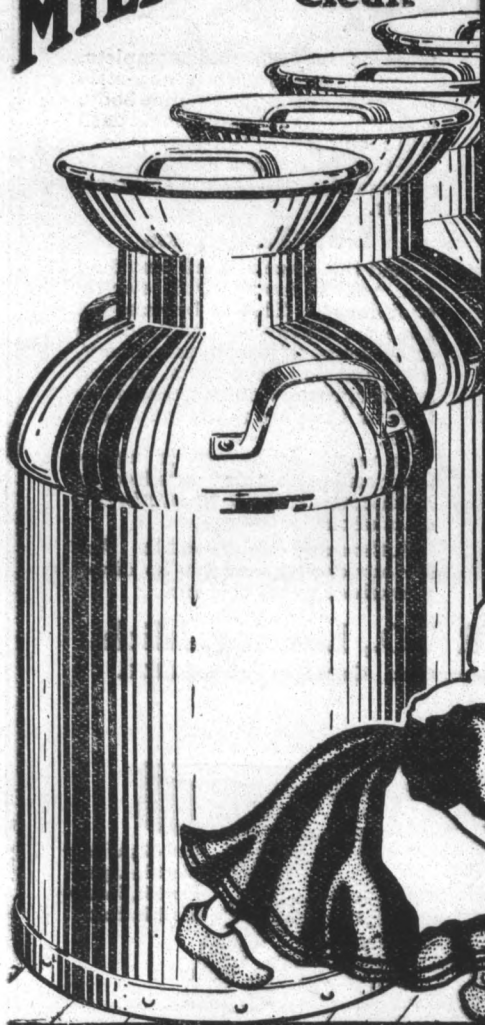
Calhoun Co. W. R. I.  
According to accepted feeding standards, a horse on medium work will







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Milk Clots, Grime and scummy accumulations quickly dislodged with "Old Dutch."

It thoroughly cleans and brightens, leaving the can sanitary and sweet.

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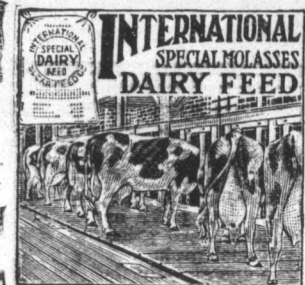
Don't Be  
Without It

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Can 10c

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INTERNATIONAL SPECIAL DAIRY FEED is composed of ground grains, grain products, cotton seed meal and molasses. Is far superior to ordinary mill feeds for feeding with ensilage or with home grown grains and is also extensively used as an entire grain ration and used in this manner will produce more milk at less cost than can be obtained from any other method of feeding.

We have many reports showing an increase of 1½ quarts per day on each cow after commencing the use of International Special Dairy Feed as an entire grain ration or when mixed in equal parts by weight with other grain feeds. Just figure out what an increase of 1½ quarts per day on each cow means to YOU. It means

twelve gallons more per month from each cow. It means 240 gallons more per month from a herd of twenty cows. It will surely pay you to give this feed a trial.

Ask your dealer for International Special Dairy Feed. If he don't keep it for sale, then send us your dealer's name and address—we will arrange with him to supply you. (C-1)

**INTERNATIONAL SUGAR FEED COMPANY**  
M. W. SAVAGE, Pres. MINNEAPOLIS, MINN.

## It Pays to Feed Dried Beet Pulp

Increase production at a lower cost.

Better try it, you can't lose. Write

**T. F. Marston, Bay City, E.S., Mich.**

## CHEAP FEED

For sheep and cattle feeders and dairymen. Salvage grain, oats, barley, wheat and corn, damaged in elevator fires. Bone dry and equal in feeding value to other grain. For sale in carlots direct to feeders. The best feeders in Michigan have been using it for years. Write at once for samples and prices, and information as to what experienced feeders think of it. "We save on your feed bill."

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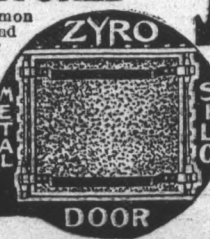
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## Dairy.

CONDUCTED BY COLON C. LILLIE.

### HIGH PRICED FEED FOR "SCRUB" COWS.

What is the highest price that a man can pay for protein feeds for scrub cows? Would cottonseed meal and gluten meal at \$2 per cwt. be economical feeds to purchase? For roughage I can get clover or mixed hay, bean pods, frosted millet that was too ripe for good feed, oat straw, etc. For grain I have corn and cob meal and can get cull beans.

Clare Co. O. E. H.

Scrub cows are oftentimes poor producers because they have not been properly fed and cared for. The co-operative cow-testing associations prove this to be so. Many cows that have been called scrub cows, when properly fed and cared for become good paying cows. The cow-testing work has given me more respect for the common cow than I ever had before. Give the native cow a chance and then if she doesn't respond she can be gotten rid of, but you never can tell what she can do until she has the opportunity.

If your cows relish cull beans ground into meal, I do not think you need to buy anything else. Mix the cull beans with the corn-and-cob meal in equal parts. Fed in connection with clover hay and other roughage I believe you will get good results. The usual trouble with bean meal is that some cows do not seem to relish it. They refuse to eat a sufficient amount to furnish the desired amount of protein for maximum yields. It might be advisable in this case to get some stock food molasses, the refuse molasses from the cane sugar factory and reduce that with water so that it will work through a sprinkling can and sprinkle the feed with this. All animals like sugar and molasses and it is a great appetizer. It is also rich in carbohydrates which are very easily digested. With this sweetened water on the feed you may get them in the habit of eating a sufficient amount of the bean meal so that they will do their best. You can also sprinkle this water upon the roughage, which will make it more palatable.

### WORLD RECORDS MADE BY MICHIGAN COWS THE PAST YEAR.

(Continued from first page).

ord; 120-day official milk and butter-fat record; 150-day official milk and butter-fat record; 182½-day official milk and butter-fat record, and yearly semi-official milk record.

#### College Bravura 2d.

The third cow to make a world's yearly record for breed was the Brown Swiss cow, College Bravura 2d, 2577, owned by Michigan Agricultural College. For the 365 days from November 13, 1912, to November 12, 1913, College Bravura 2d produced 19,460.6 lbs. of milk, containing 798.164 lbs. of butter-fat; this would be equivalent to 997.705 lbs. of butter. Age at beginning of test was 11 years, one month. In making this record College Bravura 2d surpassed the previous champion of the Brown Swiss breed, Kalista W., that had produced 16,609.2 lbs. of milk, and 650.32 lbs of fat.

The average yield for College Bravura 2d for the first 30 days was 54.3 lbs. of milk; for the last 30 days was 44.7 lbs., and for the entire year was 53.4 lbs. of milk.

This cow holds the state records for breed and stands fourth place in the aged cow class in semi-official yearly production of butter-fat when classed with all breeds.

#### Pontiac DeNijlander.

The fourth cow in the list is the Holstein-Friesian cow, Pontiac DeNijlander 108361, owned by Cole Bros., Ypsilanti, Mich. She has come into

prominence, not as having won a single world's record nor as an animal which has performed a yearly record, but as an animal that for each of three successive years of lactation has made over 30 lbs. of butter in seven consecutive days.

At the age of 5 yrs. 6 mos., Pontiac DeNijlander produced 750.2 lbs. of milk in seven days, containing 28.344 lbs. of butter-fat, equivalent to 35.43 lbs. of 80 per cent butter. During 30 consecutive days she averaged 103.02 lbs. of milk per day, containing on an average, 3.856 lbs. of butter-fat, equivalent to 4.820 lbs. of butter. As a four-year-old Pontiac DeNijlander produced 32.72 lbs. of butter in seven days and 135.31 lbs. of butter in 30 days. As a three-year-old she produced 30.10 lbs. of butter in seven days and 123.88 lbs. in 30 days. When using the totals of her three successive years of seven-day and 30-day production Pontiac DeNijlander falls in a class by herself and may be said to hold the world's milk and butter record for three successive years' performance, both in the seven-day and 30-day classes.

At the present time this cow holds the state record for seven and 30-day official butter-fat production in the aged cow class. She also holds the same records in the four and three-year-old classes.

### MAKING THE COW COMFORTABLE.

Can a person expect larger gross returns from his cows through his changing them to a more sanitary and inviting stable than they have been accustomed to? E. H.

Proper feeding, plenty of fresh air, and cleanliness, are the three necessities for profitable milk production. All these tend for comfort, and absolute comfort means the highest possible efficiency in the herd.

Proper feeding is a matter of different types of stock and the economy offered through the variety of feeds grown in a locality, but the comfort of the animals can be regulated on the same basis regardless of latitude or longitude. If a barn has enough fresh air, the best conditions as to stalls and method of tying is the same in any climate.

One of the first features to consider in proper dairy barn equipment is the manner of tying the cow. The halter is out of the question, as it means too much time lost where a herd of any size is handled.

An all-steel stanchion or a steel stanchion with wood lining makes an economical and satisfactory cow-tie, and can be purchased for less than a good halter, besides it gives the cow greater freedom, yet holding her with greater surety. The rigid wood stanchions are expensive and less comfortable for the cow than even a halter. The steel or commercial stanchions may be purchased separately and hung in any barn.

Concrete mangers and steel stalls are fast replacing wood in up-to-date dairies. Cleanliness seems to be the motto, and when equipment that offers no opportunity for an unsanitary condition may be had at less expense than the old unsanitary type can be constructed, there is but one answer to the question.

It is impossible to state with any exactness, the milk increase to be expected when cows are transferred from old-fashioned surroundings to modern, sanitary barns, but the Briarcliff Dairy reports an almost phenomenal increase of 21 per cent as a direct result of the change. Other reports state an increase of from five to 20 per cent. C. T. H. B.

### SOY BEANS.

Since the feeding value of Soy Beans has become better known, they are coming into favor, especially the Michigan Grown Black Beauty and Early Black or Nuttall varieties. If interested ask for free catalogue and prices. Address, Alfred J. Brown Seed Co., Grand Rapids, Mich.—Adv.



## Selecting Good Dairy Cows.

WITH the development of the dairy business there is necessity of ability to select good dairy cows. It matters not whether one is going to buy a cow of a neighbor or a stranger, or whether he is growing cows for his own use, knowledge of those qualities that are usually correlated with high producing powers, is peculiarly advantageous if not a necessity, to the progressive man. At the dairymen's meeting held at Grand Rapids last week, Prof. A. C. Anderson, of the Agricultural College, gave a demonstration lecture in which he pointed out the usual characteristics of the good dairy cow and contrasted them with the corresponding qualities of a poor one.

### A Useful Machine.

By way of introduction Prof. Anderson declared the dairy cow to be a machine. She has been changed to meet certain purposes; some of her native qualities have been bred off and others have been developed. Weight has been taken from the neck and shoulders and the milk-producing organs have been increased in size. It was economy to reduce the strength of the forequarters because the cow is no longer called upon to defend herself against the enemies of the forest and plains. It is also advantageous for her present purpose to increase her milk-producing power, since the amount of milk required for the rearing of her young would not make her an economical user of food. It requires about 2,000 pounds of milk to grow the ordinary calf. This amount is about all the milk that was once produced, but this limit has been doubled, tripled, quadrupled, etc., in our modern dairy cow. To do this amount of work it has been necessary to strengthen the vital organs. The heart and the lungs are called upon to do considerable work where an animal is converting so large an amount of feed into milk. Likewise the digestive organs and the nervous system must needs be able to perform greater tasks than those organs of the cow of centuries ago. So this domesticated animal has become a machine, a machine for the manufacture of milk.

### Some Outline Hints.

Now one of the first characteristics that a good judge of a dairy cow is likely to observe is her general shape. A comprehensive view is suggestive of the cow's worth, and the judge will look for what dairymen call the "triple wedge." That is, viewing the animal from the side, the line of the back and the bottom line should converge toward the cow's head, forming a wedge shape. Again, if viewed from the front the good dairy cow will have the lines of her sides from her back downward widen to a point near her bottom line, which makes the second wedge with the back as the point. The third wedge is seen from above, looking down upon the back of a good animal one observes a widening of the side lines from the head backwards.

Now this triple wedge shape is no absolute sign of good dairy qualities, or for that matter, are any of the characteristics which may be mentioned, but the professor explained, if out of a herd of 100 cows we selected 50 that conformed most closely to the triple wedge shape and compare the results from these 50 cows with the performance of the remaining 50, we would be quite certain to find that the best results would be found favorable to the 50 cows of the more approved type.

### The Good Cow May be Angular.

The tendency of the cow to convert her feed into flesh rather than to milk is another identification mark employed by the dairy judge. The smooth, well-filled out, good-looking, meaty cow generally disappoints at the pail. She may entice the unwary to take her, but the experienced dairyman will leave such a cow and choose the

spare animal whose appearance indicates that she is making feed into milk instead of flesh. The beef man wants the thigh to be full, but the dairyman would rather have it with the bones showing up a little.

Since the profitable dairy cow must consume and make into milk a very large quantity of feed, it is important that her digestive organs be well developed. This means that a large barrel intimates generous dairy performance. If the cow has been in the habit of eating heavily of roughage and grains, her digestive tract is certain to be extended, which gives her the appearance mentioned.

### The Business End.

The desirable udder is well-attached; it is fastened well forward and high up at the rear. That type of udder which appears like a two-bushel bag with a peck of grain in the bottom is not the one selected by the wise buyer if he has a choice. It was also suggested that the udder with a good width is in best favor.

The cow should have plenty of room between her legs to carry the udder. Wherever her legs pinch the great gland the blood's flow to that portion is restricted and development checked. Where the room is ample, then the udder has freedom to develop all its parts.

Large milk veins are also sought. Since these veins which reach forward along the abdomen carry the blood from the udder back to the heart, their size hints of the quantity of blood carried and consequently of the amount of milk secreted from the blood. The size of the milk wells into which these veins terminate should also be of large caliber for the same reason.

### Eccentric Methods.

At this point the professor referred to the claims of dairy experts who declare that dairy cows of high producing power can be selected from single identification marks. Some years ago much was made of the value of the escutcheon for this purpose. Another writer declared that the only part of the cow he needed to see was the gland in the flank. Still another was confident that when the vertebrae of a cow were connected in a certain style there could be no question of the animal's ability to produce economically. But it has been demonstrated that these "certain" identification marks are not always certain and that it is best to consider them all in connection with the other qualities shown to be common to high-producing cows.

### What the Head Tells.

If obliged to select a cow with opportunity of seeing only one part, Prof. Anderson stated he would choose to see the head. As one can easily imagine what is behind if he sees the head of a bull dog and that of a greyhound thrust beneath a curtain, so the head of the dairy cow seen alone tells much. The eye reveals the animal's disposition and temperament; the muzzle informs us of her capacity to take food and air, the horn indicates the quality of coat, skin and bone, and the ears denote something of the animal's vitality. The speaker would seek a head with a narrow pole, a fine horn, much room between large eyes, a well-developed muzzle, a good jaw and well-held ears.

Still other features of the dairy type of cow were mentioned: The important ones being a neck that looks long and slim, shoulders that are close set, a back line that is not too straight, plenty of chest width behind the front legs, a slim tail, an udder with quarters about level, and teats of moderate size and well placed.

These are the important distinguishing characteristics of the modern dairy cow, the most economical producing animal of all the beings that man has domesticated.

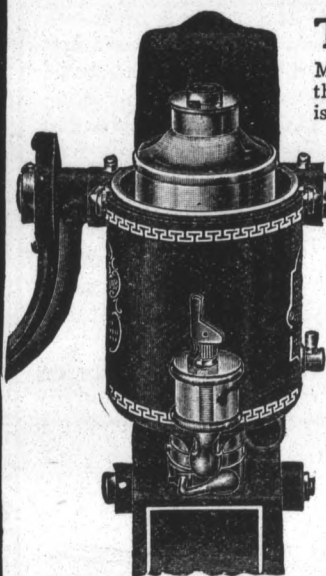
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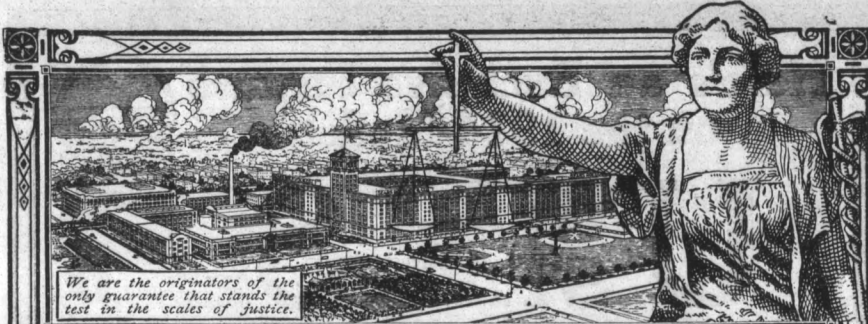
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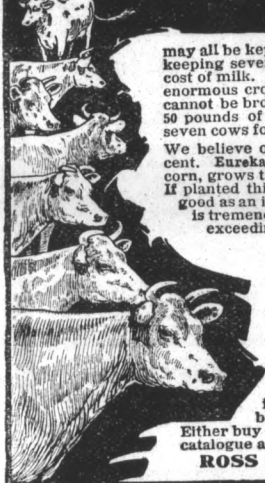
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## These Seven Cows



may all be kept for one year on the product of one acre of land. It's hardly believable. And keeping seven cows for a whole year on one acre goes a long way towards reducing the cost of milk. Eureka Corn produced in one year on one acre 70 tons and 800 pounds. This enormous crop won our \$50.00 gold prize for the heaviest yield. We believe this record cannot be broken by any other corn, but Eureka can still beat it. Figuring at the rate of 50 pounds of ensilage per day, which is a very liberal allowance, this amount will feed seven cows for one year, with enough left over for 251 feeds.

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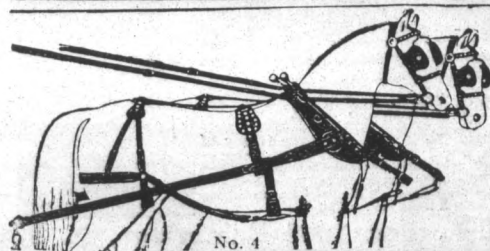
You do not need to plant your whole farm when you can fill a 200-ton silo from 4 to 6 acres with Eureka. Ask yourself what corn is worth per bushel that will produce 70 tons and 800 pounds. We are not asking you to experiment, we are only asking you to buy seed corn that has been proven by thousands of successful farmers to be the best that money can buy.

**CAUTION:** Don't accept of any yellow dent or white horsetooth corn as Eureka. We received several letters last year from parties who were unable to get their Eureka from us and claimed that they had received from other dealers corn marked Eureka, which was entirely different from the genuine. Eureka Corn shelled is always shipped in our trade-marked burlap bags and ear corn is shipped in rat-proof crates holding 70 pounds. Either buy direct of us or some of our agents who have the genuine—write at once for catalogue and quotations.

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## Practical Science.

### THE ELEMENT OF UNCERTAINTY IN INTERPRETING FEEDING EXPERIMENTS.

Continued from last week).

By the use of the probable error we are able to interpret the results of feeding experiments in a fairly satisfactory manner. The element of uncertainty resulting from the meaningless variation existing among individual gains, due to uncontrolled experimental factors, has been definitely and reasonably defined.

#### Individual Experimental Data Should Not Be Omitted in the Bulletins.

For the application of the statistical method above defined to the ordinary feeding experiment, and in fact, for the proper interpretation of the results of the ordinary feeding experiment by whatever method, the collection of data concerning the gains made by each individual animal is absolutely essential. Important as this condition undoubtedly is to the adequate interpretation of feeding experiments, it is too frequently disregarded in experiment station work. The collection and publication of individual data are too often thought to have little or no bearing on the problem of the experiment and consequently to be a waste of energy and space; and yet by neglecting these two points, the investigator throws away the only opportunity of adequately analyzing his data.

In the second section of the bulletin, a large amount of experimental data collected in this country and in Canada and England are analyzed for the purpose of determining the ordinary variation existing among the gains in weight of farm animals subjected to like conditions, the factors upon which this variation depends, and ultimately the manner in which this variation may be reduced. The extent of this variation on any feeding experiment is obviously a measure of the experimental error.

#### The Larger the Number of Animals Used in the Experiment, the Better.

Based upon the average variation found for sheep, steers, swine, and poultry, calculation indicates that experimental lots should contain at least 10 to 15 animals, or even 25 to 30 animals when the rations or other conditions under investigation are very similar. The necessity of using at least 10 to 15 animals per lot in feeding experiments seems to be well established. Whenever this number can be increased, the better, for this is the surest and most generally recognized means of increasing the significance of experimental results. The conclusion seems inevitable that single experiments with four or five animals to the lot cannot be expected definitely to solve any of the problems in live stock raising, or to furnish experimental data of sufficient value to be used as the basis for recommendations to the agricultural community.

It is obvious that whenever and wherever possible, it is advantageous to reduce the experimental error in feeding experiments, i. e., to increase the uniformity of gains within the different lots of animals under observation. Provided the value of the experiment and its practical availability are not also thereby reduced. In accomplishing this reduction of the experimental error, attention must first be directed to the selection of the experimental animals.

#### Experimental Animals Should be Carefully Selected. They Must be Homogenous.

A careful and intelligent selection of the best methods of reducing the experimental error of feeding trials and of thus obtaining more valuable

and more significant results without interfering with conditions that the experiment must conform to by reason of the use to which its conclusions are to be put. It is well known that animals at different ages exhibit different rates of growth and different fattening qualities. It is also obvious that different breeds of the same species of animals often exhibit differences in fattening qualities, especially if they are of different general types; and even when it is not obvious that such breed differences exist it is not justifiable to assume that they do not exist. The available data indicate with a high degree of certainty that, in general, wethers gain faster than ewes, barrows faster than sows, and cockerels faster than pullets, at least at the fattening age. Furthermore, it is beyond dispute that differences in the treatment of animals previous to experiment may frequently be the cause of differences in fattening qualities.

In view of these conclusions, deduced from a large amount of representative data, we cannot over-emphasize the necessity of securing homogenous experimental lots of animals as regards age, breed, type, sex, and, in so far as practicable, previous treatment. The great preponderance of evidence indicates that by selecting farm animals for experimental purposes in accordance with this principle, the experimental error is greatly reduced.

In any experiment involving two or more lots of animals, it has in general been found that the lots exhibiting the best gains also exhibit the most uniform gains, and vice versa. Furthermore, it has been found from experiments in which the experimental animals were weighed periodically during the investigation, that frequently the variation of gains within lots progressively decreases from the beginning of the experiment to the end, the rate of decrease being greater during the earlier periods than during the later periods of the feeding experiment. In other experiments, a continuous decrease in variation of gains is not evident. In most cases of this description that we have analyzed, a more or less close correlation between changes in ration and changes in the variation of gains may be observed, such that an increasing ration is generally accompanied by a decreasing variation, a constant ration by a constant or slightly increasing variation, and a decreasing ration by an increasing variation. Unfavorable weather conditions seem also to be instrumental in producing more variable gains, while in a few instances the correlation between ration and the variation of gains above stated seems to be complicated or obscured by other factors, such as the relation of food intake to body weight or bodily requirements.

#### The Effect of the Amount of Feed Consumed.

While the evidence adduced does not unanimously point to one explanation of the changes in the variability of gains during the course of a feeding experiment, considerable support may be found for the general statement that when conditions are constantly or increasingly favorable to growth and fattening, an increasing uniformity of gains is generally secured, or, in other words, the experimental error is progressively reduced. It seems, therefore, that whenever practicable and whenever the nature of the experiment will permit, experimental animals should be induced to consume an increasing amount of feed.

Another method of reducing the experimental error of feeding trials that is in vogue in one form or another at



different stations, has been investigated. The essence of this method is the selection for experiment of only those animals that during the course of a preliminary feeding period have proved themselves to be functionally similar as regards the rate of growth or fattening. Hence we have called the method physiological selection. From theoretical considerations alone it appears that even if physiological selection is efficacious in accomplishing its purpose of eliminating poor gainers and reducing experimental error, it will so mutilate the feeding experiment itself as to render it much less valuable to practical live stock farming and to limit its applicability and thus reduce its significance.

Experimental evidence, however, indicates clearly that physiological selection does not eliminate the poor gainers. In fact, it appears that those animals exhibiting the poorest gains in a preliminary period are in general no worse than a random sample of the entire group of animals in a subsequent feeding experiment. Furthermore, physiological selection is very inefficient in reducing experimental error, even when conducted along the most rigorous lines. Hence this method is both theoretically faulty and practically incompetent to accomplish its purpose.

#### The Tendency to Draw Conclusions from Insufficient or Improperly Interpreted Data.

The necessary precision in feeding trials may be attained by a reduction of the experimental error as above shown or by repetition of the experiment. From a study of the efficacy of repetition, it appears that frequently under the most favorable conditions feeding experiments cannot be duplicated. Frequently experiment stations have obtained results from feeding trials pointing unequivocally to a certain conclusion, and yet subsequent attempts to duplicate such experiments have yielded results quite incompatible with the first conclusion. The gravity of such a situation cannot be over-emphasized. Its remedy seems to be, first, the more careful reporting of experimental conditions, including a chemical analysis of rations; and second, the conviction that the conclusions of feeding experiments are more intimately connected with the particular experimental conditions that prevailed than has heretofore been believed. The conclusion, for instance that one feed is better for fattening purposes than another may be totally at fault if other samples of the two feeds, possessing quite different compositions, be used, or if other breeds of animals, or animals more (or less) mature, be used, or other methods of preparing the feeds or sheltering the animals be followed. Such possibilities should always be kept in mind, and the frequent tendency to generalize from data of a very specific description should be carefully guarded against.

(Continued next week).

#### LABORATORY REPORT.

##### Lint in Cottonseed Meal.

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Monroe Co.

S. W. J.

The sample of cottonseed meal upon analysis shows 15.08 per cent of crude fibre, or twice as much as would be found normally in cottonseed meal. It is therefore an inferior product in that it contains too much fibre. This is the lint or cotton fibre which you notice. In the judgment of the writer this meal, with its accompanying cotton fibre, is not so good for stock as if the fibre were cottonseed hulls, although cattle would probably take care of it if not fed in too great quantities. By reason of the lint this meal is worth less per pound than meal containing the usual percentage of crude fibre.

# \$3,000 CASH PRIZES

## open to every farmer in

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**INDIANA** growing corn or potatoes

**MICHIGAN and WISCONSIN** growing potatoes

**KENTUCKY** growing corn

**\$1000.** FOR THE LARGEST CROPS OF CORN grown on any of our complete fertilizers in Ohio, Kentucky or Indiana. Ten prizes, \$100 each. Address for particulars, rules, etc., on the corn contest, The American Agricultural Chemical Co., Cincinnati Sales Department, Cincinnati, Ohio.

With corn coming into this country from Argentine and Africa, to take the place of the soft corn which was grown in the Corn Belt, much of which could not be shipped and could not be fed because of immaturity, it is high time that the West should wake up to the importance of not only producing more corn per acre, but corn that is mature and well ripened and which will grade No. 1 and 2. This can be helped along in the West as it is in the East by the use of available fertilizers which not only increase yield but hasten maturity and improve quality.

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The awards will be made by a committee of well known farmers and business men. Every contestant will have a square deal and the largest crops will win. Every crop will be weighed and witnessed.

**WHY NOT COMPETE?** The ten prizes of \$100 each, offered for the best ten yields in each class are well worth striving for, since if one does not win one of the prizes he is sure of getting a better crop both as to quantity and quality. Besides, the pleasure and experience of competing will not be lost on you or on the boys whom you want to stimulate and interest. Any member of the family can compete.

Ask any one of the three offices named above for information and an entry form.

**The American Agricultural Chemical Company**  
Cleveland, Cincinnati and Detroit

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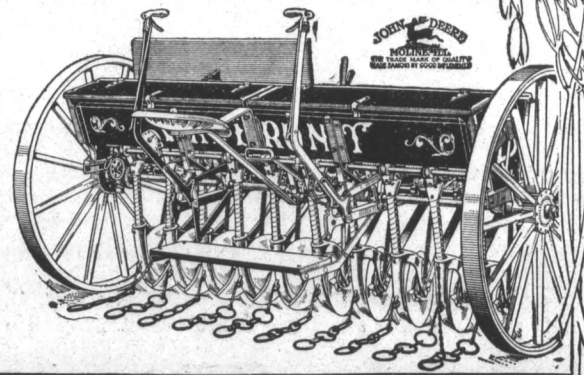
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MOLINE, ILLINOIS





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DETROIT, FEB. 28, 1914.

### CURRENT COMMENT.

**The farm man-  
Live Stock vs. Cash age-ment investi-  
Crop Farming. gations which**  
are being con-  
ducted by the Department of Agricul-  
ture in co-operation with several of  
the northern states have already re-  
vealed some very interesting facts re-  
lating to our agriculture. Not the  
least interesting of the data collected  
refers to the comparative profit of  
live stock and special cash crop farm-  
ing, notably grain farming as prac-  
ticed in the corn belt. The result of  
a farm management survey of three  
representative areas in Indiana, Illi-  
nois and Iowa shows that live stock  
farming in these localities is very  
much more profitable so far as labor  
income is concerned, than grain farm-  
ing, the labor income of the live stock  
farmer being several times as large  
as that of the grain farmer. In addi-  
tion to this advantage, there is the  
added advantage in live stock farming  
well known to every farmer, viz., con-  
servation of soil fertility. If in con-  
nection with this demonstrated fact,  
as shown by this survey, that live  
stock farming is far more profitable  
than cash crop farming, we take into  
consideration the further fact as  
shown by statistics recently published  
by the Office of Information of the  
United States Department of Agricul-  
ture, that there is at the present time  
a great shortage of meat-producing  
animals in the United States as com-  
pared with 1910, as shown by the cen-  
sus figures, there is certainly an ad-  
ded incentive for the average farmer  
to turn more of his attention to live  
stock production.

The statistics above mentioned  
show that upon the best estimates  
obtainable there has been since 1910  
an annual decrease of 3.2 per cent in  
the number of beef cattle, 1.3 per  
cent in the number of sheep and 0.3  
per cent in the number of swine in  
the United States, or a total decrease  
within the period mentioned of 12.9  
per cent in beef cattle, 5.2 per cent  
in sheep, and 1.3 per cent in swine.  
When considered in relation to the  
increased population of the country,  
there is a still greater shortage in the  
number of meat animals as compared  
to population in the United States.  
Figured on the same basis, the short-  
age in beef cattle is estimated to be  
19.2 per cent, sheep 11.6 per cent,  
swine 5.2 per cent. On the other  
hand, owing to the advance in the  
price of meat animals, there has been  
notwithstanding this shortage consid-  
erable increase in the value of meat  
animals maintained upon the farms

of the country. This increase has  
been entirely on cattle and hogs, sheep  
having made a fractional decrease in  
value since 1910. It would thus ap-  
pear that, notwithstanding the re-  
moval of the tariff on meat animals  
and meats imported into the United  
States, there is a profitable future for  
meat production upon the farms of  
the country, since foreign meats will  
not find their way to our markets at  
figures which are below world values  
in this line of products, and because  
the grass ranges devoted to meat  
production in foreign countries are  
likely to meet with the same fate  
which has overtaken the free ranges  
in our own country in recent years.  
While the increased price which now  
obtains for meat animals produced  
on the farms is not all profit to the  
producer on account of the higher  
value of his land and the higher mar-  
ket value of the feeds used in their  
production, yet the results above not-  
ed as having been revealed by the  
farm survey in the corn belt states,  
would seem to indicate that the mar-  
gin of profit is greater where these  
products of the farm are marketed  
through live stock than where sold in  
the open market.

In the dairy department of live  
stock farming, the figures are still  
more flattering. The number of dairy  
cows on the farms of the United  
States is estimated at about one-half  
of one per cent larger than the num-  
ber shown by the census figures of  
1910, while the value of these milch  
cows is estimated to have increased  
50.7 per cent within this period of  
time. An increase in live stock farm-  
ing does not necessarily or properly  
mean the elimination of cash crop  
farming. By increasing the amount  
of live stock and live stock products  
produced upon our farms and making  
a specialty of some one or more cash  
crops which fit in well with the rota-  
tion best suited to live stock farm-  
ing, the average labor income of Mich-  
igan farms can undoubtedly be mate-  
rially increased and the fertility of  
Michigan soils be better conserved.  
There is profitable food for thought  
in the above comparisons for the  
Michigan Farmer readers.

It is not uncommon  
**Young Men and the Farm.**  
in these days to hear  
the middle-aged city  
man, who has been  
reared upon the farm, express an in-  
tention to return to country life.  
Where these men have been fortune-  
ate in attaining a competence, this  
is a most hopeful sign of our future  
prosperity, since having tried city life  
and city occupations with a material  
success which would naturally give  
them satisfaction and encouragement,  
they have come to the conclusion that  
the country offers greater induce-  
ments in the way of better and more  
wholesome living and, what is more  
important to many of this class, a  
better place in which to rear their  
children.

There is another class, however,  
from whom similar expressions of in-  
tention are frequently heard—men  
who have spent the best years of  
their lives working at some city oc-  
cupation without having earned a com-  
petence, who regret ever having left  
the farm, and who contemplate a re-  
turn to the land in the hope of better-  
ing their condition. These men usu-  
ally do not realize that their best op-  
portunity for success on the farm has  
been neglected. The farm manage-  
ment investigations above referred to  
have shown that those making the  
poorest incomes upon farms are the  
men who became actively interested  
in farming at or after middle life.

While the country may afford bet-  
ter opportunities for these disappoint-  
ed city dwellers than they have en-  
joyed, there is nowhere near the cer-  
tainty that this will be the case, or  
that farm life will hold for them all  
the advantages it holds out to the  
young man who makes farming his

chosen profession from the start.  
Farming is not a "get-rich-quick"  
business, but a stable enterprise  
which requires experience as well  
as energy in order to attain a  
gratifying degree of success, hence  
the chances for success are greater  
with the young man, and it is gener-  
ally a mistake for the young man to  
feel that he can return to the farm  
with just as good prospects after he  
has tried out some other line of work.  
Life is too short to make the greatest  
success from divided energies.

The Lever Bill, so-  
called, which has  
**Agriculture in Congress.**  
been considered at  
several previous ses-  
sions of Congress, has been passed by  
the House. The Senate has passed  
a similar bill and the differences  
between these bodies will doubt-  
less be made the subject of com-  
promise so as to insure the placing of  
this act upon the statute books. This  
bill as passed by the House provided  
for an appropriation of some \$3,000-  
000 for farm demonstration work; the  
bill passed by the Senate provided for  
a still larger appropriation. The  
greatest difference of opinion existing  
among members of the two houses  
seems to hinge upon the method of  
distribution which is on a basis of  
population and will, it is contended,  
favor the southern states. This bill,  
if finally enacted into law, will require  
the co-operation of the several states,  
and the appropriation of like sums for  
similar purposes in order to partici-  
pate in the distribution. This will  
mean that a vast sum of money will  
be expended in some form of farm  
demonstration or extension work  
throughout the country. The result  
of this work will depend not a little  
upon the wisdom of the plans formu-  
lated in carrying it out. Agriculture  
has in recent years become so much  
of a fad that everybody is trying to  
teach the farmer. There is, however,  
undoubtedly a wide field for dem-  
onstration work which will prove or  
disprove the adaptability scientific re-  
search data to practical farm condi-  
tions throughout the country. The  
government has expended vast sums  
in investigational work, and there is  
undoubtedly room for the practical  
application of much of the knowledge  
thus secured. There is plenty for the  
average farmer to learn in the way  
of applying science to his business,  
but the result of an attempt to bring  
about a maximum of such application  
will depend largely upon the practi-  
cability of the plans under which the  
attempt is made.

As announced in the  
**The State Corn Show.**  
general program for  
the State Round-up  
Institute or "Farm-  
ers' Week," the State Corn Show, held  
under the auspices of the Michigan  
Corn Improvement Association, will  
be held at the Agricultural College in  
connection with this event. Liberal  
prizes have been provided for ten-ear  
and single ear exhibits in the various  
classes. Entries may be made upon  
the payment of an annual member-  
ship fee of \$1.00 or by life members  
who have paid the life membership  
fee of \$10.00. Entries should be sent  
by express or parcel post to J. R.  
Duncan, Secretary, care Farm Crops  
Department, M. A. C., East Lansing,  
Mich. Entries should be in not later  
than Tuesday morning, March 3. Ex-  
hibitors are not permitted to make  
exhibits in more than two classes, and  
entries must have been grown by the  
exhibitor in the season of 1913, and  
entered from the district where grown.

This feature of "Farmers' Week"  
should add to the interest of the oc-  
casion for the farmers of all sections  
of the state. Reports from other states  
in which these "Farmers' Week" pro-  
grams have been given at their agri-  
cultural colleges, all tell of profitable  
meetings which will undoubtedly be  
reflected in the betterment of agri-  
culture. A general attendance of Mich-

igan farmers at the sessions to be  
held at M. A. C. next week will un-  
doubtedly result in a similar benefit  
to Michigan agriculture. Every read-  
er who can possibly arrange to do so  
should attend this meeting.

### HAPPENINGS OF THE WEEK.

#### National.

The cold wave that passed over  
Michigan Sunday, reached as far  
south as Texas. Transportation was  
interfered with by heavy snow  
storms, while many people, especially  
those in the larger cities, suffered ex-  
tremely from the low temperature.

On Thursday of this week promi-  
nent men of the republican and pro-  
gressive parties of Ohio will meet to  
consider an amalgamation of the two  
parties of that state.

The congressional committee inves-  
tigating the strike situation in the  
copper district of Michigan are now  
making inquiry into the action of the  
state militia during the strike. Work-  
ing conditions will also be studied by  
the committee.

A department store fire in the vil-  
lage of Chelsea, Mich., resulted in a  
loss of property estimated to be  
worth \$30,000.

A definite decision has been reach-  
ed to hold a celebration in New York  
City this year. The celebration will  
commemorate 100 years of peace be-  
tween English speaking peoples, and  
also 300 years of commercial pro-  
gress of the city of New York.

Two boys were caught in a blind-  
ing blizzard on the ice of the bay at  
Harbor Springs, Sunday, and became  
lost. They were compelled to spend  
the night in a fish shanty, where they  
were seriously frozen. They dragged  
themselves two miles into the city the  
following morning and are now in a  
serious condition.

Strong opposition is developing  
against the action of the last Con-  
gress in allowing free tolls through  
the Panama Canal for coastwise ves-  
sels, and it is probable that the pres-  
ent Congress will repeal or amend the  
act, making it necessary for such  
vessels to pay charges for the use of  
the new waterway.

The State Railroad Commission is  
asking the Pere Marquette Railroad  
to explain the reason for closing some  
of its stations and removing passen-  
ger and freight trains from regular  
schedules.

The probe into charges of graft  
against New York city continues and  
last week the district attorney brought  
into question the payment of \$80,000  
for work done by New York attorneys  
in searching titles to lands needed for  
the building of the aqueduct that car-  
ries water from the Catskill moun-  
tains to New York city.

Robert P. Walsh, one of Port Hur-  
on's wealthiest citizens, died in Flor-  
ida, Sunday, at the age of 90 years.

The poorhouse of St. Clair county  
was practically destroyed by fire on  
Sunday, and the 73 inmates, some of  
whom narrowly escaped with their  
lives, are for the time being home-  
less. The cause of the fire is un-  
known and the loss to the county is  
estimated at \$35,000.

An organization of men interested  
in the development of the mule, is be-  
ing perfected at Nashville, Tenn. The  
organization will be national in its  
scope, and will seek to bring together  
the breeding, raising and marketing  
interests of the American mule.  
through a harmonious association.

Frank D. Tomson, who has been  
actively connected with the Agricul-  
tural Press for the past 15 years—  
most of this time with the Breeders'  
Gazette—has lately become a part of  
the Woods Bros. & Silo Mfg. Co., and  
has taken the position of sales man-  
ager. He will move to Lincoln, Neb.,  
and make his home there.

#### Foreign.

A new interest has been injected  
in the Mexican situation by the ex-  
ecution of W. S. Benton, an English  
subject. The execution was ordered  
by General Villa, leader of the rebel  
cause. The incident has aroused Eu-  
ropean nations, and is bringing addi-  
tional pressure upon this country for  
intervention. While discussion of the  
situation has not been opened on the  
floor of Congress, it hardly seems  
possible to delay such consideration  
much longer. Those informed believe  
that a crisis will develop during the  
next few weeks.

Last Friday the bark Mexico, en-  
route to Plymouth, England, ran on  
the rocks off the coast of Wexford,  
Ireland. Fourteen persons are be-  
lieved to be drowned, while 11 others  
are held prisoners on an island of  
rock.

Affairs in Haiti remain unsettled.  
While the federal forces under Presi-  
dent Zamor have been victorious  
throughout the northern districts of  
the island, a spirit of unrest has de-  
veloped at Port au Prince, the capital.

The church building and chapel of  
the gray nuns' convent at Quebec  
were destroyed by fire Sunday, the  
loss being estimated at \$62,000.



# Magazine Section

LITERATURE  
POETRY  
HISTORY and  
INFORMATION

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

The FARM BOY  
and GIRL  
SCIENTIFIC and  
MECHANICAL

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

## Farming on a Large Scale in Germany

By PROF. ALFRED VIVIAN.

MANY Americans are in the habit of thinking of Germany (and in fact of all Europe) as a country of very small farms as compared with those found across the Atlantic. The fact is that Germany is a land of contrasts, and while it has many tiny farms there are others that far exceed in acreage what would be termed a large farm in Michigan.

We are now in Saxony which is said to be the most fertile part of the German Empire, and where many large farms are to be found. The one most recently visited consists of ten thousand acres, all of which is under cultivation. The soil is a sandy loam and we have never before seen country so absolutely flat. The American prairies, generally considered flat, are undulating, but this ground looks as if it had been ironed out, it is so devoid of crease or wrinkle.

The two principal money crops grown are potatoes and sugar beets. Saxony is the center of the beet sugar industry of Germany, and in traveling through it the fields of beets may be seen stretching away for miles in every direction. These beets receive intense cultivation involving a great amount of hand labor. Nearly all of this work is done by women and most of them come from Poland. There are regular agencies for the importation of this labor and the employer simply calls on them for the number of laborers he desires. The companies are required by the government to return these people to Poland

large quantities purchased from farms more or less distant. The factory was running to full capacity and immense loads of beets were being brought in continually. All imaginable kinds of vehicles were seen delivering them at the factory. There were loads drawn by one and two horses, and some tremendous lots by four-horse teams. One and two cows were bringing their quota as well as teams of heavy oxen. Two women and a dog brought in one cart load, and the woman with the basket strapped to her shoulders was also in evidence.

In the factory these beets are first shredded and then treated with boiling water for some time to extract the sugar, after which they are pressed to force out as much as possible of the juice. The pulp left from this process still has considerable value as a feeding stuff for cattle, and for preservation it is put into what may be called a primitive kind of a silo. A wide trench is dug eight or ten feet into the ground and on the bottom is laid a line of drain tile to carry away any water which may accumulate.

by the estate in a neighboring city.

A large pile of chalk was noticed in the barn which we were told was fed with the beet pulp as the latter contains injurious acids which are neutralized by the chalk and rendered harmless.

The owner says that the sugar beet is a profitable crop to raise but that it would hardly be so if the pulp were not utilized. He also said that the beets are valuable as well for the effect on the succeeding grain crop. The careful and thorough cultivation given the beets leaves the land in splendid condition to produce a bumper crop of grain.

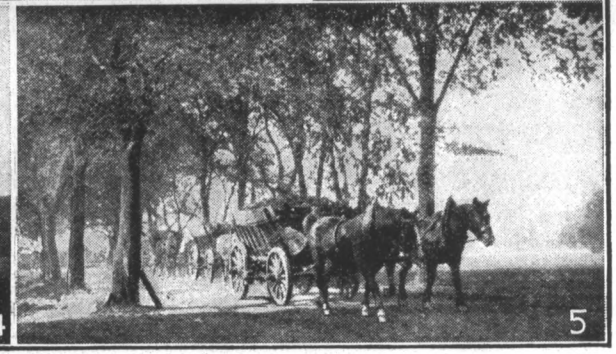
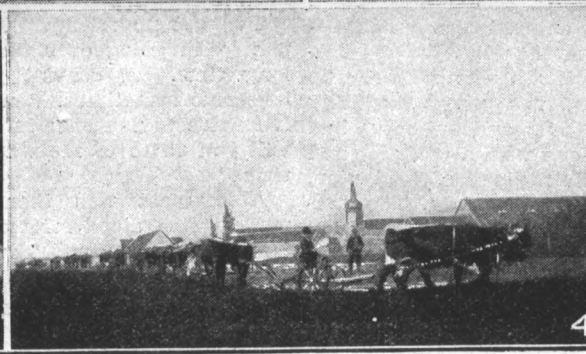
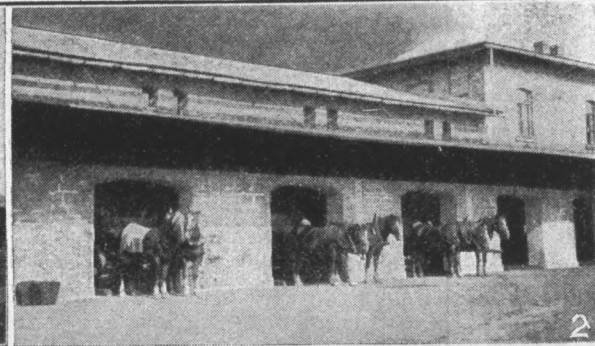
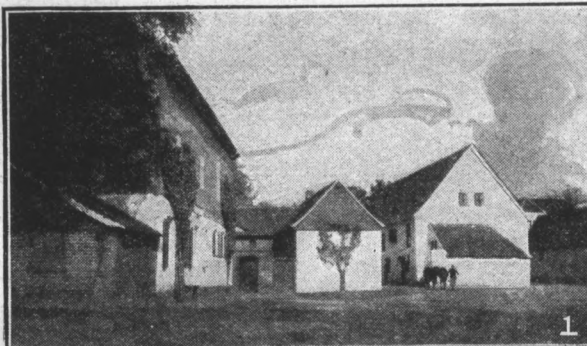
We are constantly amazed at the enormous quantities of fertilizers used by the farmers of this locality. The German farmer believes in the value of stable manure and in few places are there any evidences of waste of the same. Most of those interviewed simply assume that cattle are necessary to the maintenance of fertility, but in addition to producing all the manure possible they buy almost unbelievable amounts of "artificial."

terially from that of the average American. The latter is wont to speak of a soil as being fertile when it will produce good crops without the addition of any fertilizer, regardless of the fact that continued cropping of such soil will reduce it to a state of low crop-producing power. The European farmer never expects to cultivate any kind of a soil without manure and fertilizers, and his conception of a fertile soil is one that will yield good crops when fertilized. In other words, a fertile soil is one which is responsive to fertilization and not one capable of producing crops without fertilizers; a nice distinction that his American brother must learn sooner or later.

The estate mentioned above has a large acreage in potatoes, a crop to which this soil is well adapted. To utilize this crop to the best advantage a plant has been built for the manufacture of alcohol. A large proportion of the potatoes grown, especially those of small size, are used for the purpose and in one year about 175,000 gallons of alcohol are manufactured. This is one of the so-called "Agricultural Distilleries" recognized by the German government. Such a plant

can use only the products grown on its own farms and is subject to regulations different from the larger distilleries.

In the potato fields as well as among the beets the work is done largely by women. It is hard to become accustomed to the sight of the vast number of women who



FARM SCENES IN GERMANY.

1—Street Scene in Typical German Village.

2—Unloading Beets at Sugar Factory.

3—German Roadsides Planted with Fruit Trees.

4—Ten Yoke of Oxen Plowing in One Field.

5—Hauling Beets to Sugar Factory.

by a certain date in the fall of the year as it is considered undesirable to have them locate permanently in Germany.

The sugar beets are now being harvested and it is a sight long to be remembered to see the women topping and piling the beets or loading them onto the wagons. We watched one woman for some time topping the beets and throwing them over her head to the pile. These women become very skillful in throwing the beets, and there seemed to be a beet in the air all the time, and few of them missed the heap.

The owner of this particular farm has his own sugar factory in which he uses the thousands of tons of beets produced on his own farm, as well as

This trench is filled with the pulp and, it is heaped up six or eight feet above the surface of the ground, being tramped down as well as possible. The heap is then covered with a layer of earth to exclude the air. The pulp is said to keep very well in this way and is used from the end of the pile so that none of the silage is exposed to the air for a long period.

Some of the pulp is hauled away by the men who sell beets to the factory but the greater part is stored for use on this farm. To consume this material the farm maintains a large herd of dairy cattle. On the occasion of this visit here were 120 black and white cows in the new barn of the estate, the milk from which is used for butter making in a creamery owned

Probably the nearness and cheapness of the potash salts effects their judgment, for several of them said that they used from 600 to 800 pounds of high-grade potash salts to the acre. This is done in face of the fact that the potash syndicate itself never recommends more than 200 pounds. These farmers, however, simply say that they have used it, and it gives good results, and that is all they care for; which attitude of mind precludes further argument. They say further that heavy fertilization prevents injury from insect enemies which are destructive to the crop on poorly fertilized soils.

This is a good place to call attention to the fact that the European conception of a fertile soil differs ma-

do this work—in one field over a hundred workers were counted. The employers make no secret of the fact that they employ women because they are cheaper. In fact, they could hardly find men in sufficient numbers to do the work even if they were willing to pay the higher price. The women themselves probably would not appreciate the sympathy bestowed upon them by the American visitor for most of them, we are told, prefer this work in the open field to working all day in the house; but for all that we hope the time will never come when the American women will have to do the heavy work of the fields.

In the potato fields of the smaller farms, where digging machinery is not used, it was no uncommon sight



## Why Ajax Are Best

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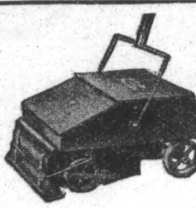
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to see a row of ten to twenty women working on their knees digging out the tubers with a potato hook. Such farms as the one under description have machinery for digging the potatoes, but even here they are picked up and bagged by hand, although the soil would permit of the use of the modern potato harvesting machines of America.

Some sixty odd teams of Belgian horses are employed on this farm. Thirty of these teams were seen one noon and the massive fellows made an impressive sight. The plowing and much of the other work of the farm is done by oxen, of which the estate owns a large number—all of them big and heavy and capable of pulling immense loads. In one field (shown in the illustration) ten yoke of oxen were seen plowing at one time, a sight which could not but increase the respect of the onlooker for heavy oxen as a source of farm power. On many of the smaller farms the plowing and harrowing is done with cows.

In this particular section there are no pastures, as the land is so valuable for cultivation; nor are there any fences enclosing the fields. The cattle are kept in barns or small enclosures and the green crops hauled to them. If at any season of the year they are allowed in the fields they are herded, usually by children. In many of the best fields the tops were being fed off by sheep which were carefully watched by the shepherd and his dog. One surprising thing about Germany

is that there are no isolated farm-houses such as are seen in America. All the farmers live in villages and sometimes at a considerable distance from the farm. The consequence is that the open country is devoid of buildings of any kind, for the barns as well are in the village. As noted in the case of Belgium the house and barns are usually so built as to enclose a square court. The court is paved and the manure pile is in a depression in the center.

Several miles were traversed on foot along the delightful roads of Saxony and always between rows of fruit trees. All the country roads have apples, pears, cherries, or other trees planted on either side. The trees belong to the village and the fruit is sold on each tree to the highest bidder. The law protects the purchaser so thoroughly that few people care to risk helping themselves to the fruit. In some cases the fruit trees are the source of a very respectable revenue for the villages, and add much to the beauty of the roadside as well.

Many of the farm villages are about as unprepossessing as one could imagine. They have few trees and little grass and lack the beautiful gardens so characteristic of the farm homes in some of the countries visited early in our tour. A movement is now on foot to encourage the improvement of these villages, the complaint is being made that the unattractiveness of farm life is driving the young people to the large cities.

## No. 8722--By Edgar White.

**A**BOUT nine in the evening there was heard in the front part of a gloomy stone and brick house, a little ways out of the business section, a sound like the crashing of timber, fierce oaths and then a rifle shot. A tall, swarthy man, with a face like a wild animal, emerged from the portal with the sinuous movement of a panther, took an instant glance up and down the street and made off in the darknes.

People of the neighborhood, who had heard the commotion, swarmed over to the gloomy building, which was the county jail at Macon, Missouri. A man with reddish mustache and imperial lay upon the floor, shot the body.

A small, wiry man was excitedly explaining how it all happened. He was the sheriff of Macon county.

As he had entered the dungeon—for that is exactly what the old Macon county jail was—to remove the supper dishes, two yeggs awaiting trial for burglary and robbery, had set upon him one with a chair leg and the other with a piece of lead pipe, and began hammering him. The sheriff dodged around and fought back as best he could, but the men would have finally "got" him had not his 13-year-old son ran for his hunting rifle and shot one of the men just as he was, the sheriff said, about to administer to him a terrific blow over the head. While the sheriff and his son were engaged with the man of reddish mustache and imperial the other prisoner made, in thieves' parlance, "his getaway."

The wounded man was lifted none too gently and carried back into the dark cell and thrown on a cot. Coverlets were tossed over him, and the crowd gathered in to "take a look."

One man laid his hand on the prisoner's head and asked:

"Where were ou hurt, friend?"

A youngster standing by the cot seized hold of the covers and said:

"I'll show you."

He would have jerked the covers off, but the one who had asked the prisoner the question laid his hand on the young man's arm.

"Let him be," he advised gently. "The poor fellow is suffering."

The eyes of the wounded yegg, which had been closed, slowly opened and were turned studiously on the man who had spoken kind words of him; he seemed to be trying to fix the man's face in his memory, but he said nothing.

Physicians said that night the yegg was fatally injured. The ball had gone clear through his body. But it happened it had touched no vital spot, and the man got well. The first thing he said, when he recovered his speech was that he did not blame the boy for shooting him in the defense of his father.

When the yegg was sentenced by the circuit court to eight years in the penitentiary he walked over to where sat the man who had befriended him the night he was shot, and held out his hand.

"I've got no friends," he said simply. "I'm going over the road for a long time. A convict gets mighty lonesome sometimes. Would you mind if I write to you once in a while, and will you write to me when you have time?"

A compact was then and there made which stood for ten years, and is yet in operation. The yegg went to the pen and became No. 8722.

At first his letters were ornate with the dialect of his class. The friend sent him selected magazines and good newspapers. He also sent him a good fountain pen, paper and envelopes.

As time went on the writing of 8722 showed a marked change. The slang was dropped. He said afterwards that he studied the writing in the publications sent him, and tried to conform to it. Much practice made him a master of penmanship. He wrote a clear, beautiful hand that would have been a credit to any school teacher. All the while he was seeking higher ideals. He learned to carve in soft stone, and sent his friend many beautiful presents of his workmanship—sometimes the representation of a Bible, again it was a small lion, or a lady's dainty shoe.

The friend made an effort to have 8722 pardoned. The governor said he would parole him if the friend secured a job for him. This the friend did and also sent in a petition containing

the names of the judge, the sheriff and other officers usually required on such papers, together with those of many prominent citizens of the county.

The parole was about to be granted when a new pardon attorney came in, and he dug into 8722's old record, and said it showed him to be a desperato character, an outlaw. So the parole was denied.

Meanwhile 8722's comrade, the swarthy man, who moved about like a panther, was captured and arraigned before the court. Although engaged in the identical crimes that 8722 had committed, and having been the leader in the jail-break, this man was only sent up for two years.

After he was at last released someone spoke of the inequality of the sentences. No. 8722 said:

"I'm glad they didn't send Bill up for any longer. He's had a hard time."

No. 8722 took the bad news about the parole philosophically. Not a word did he say against the pardon attorney or any man about the penitentiary. His record there was of the best, and he finally got out under the three-fourths rule. He had served six years.

Now came the crucial test in 8722's career. He had a few dollars, and knew something of several trades. Six years had been taken from his life, yet he was comparatively a young man. Straight to the town where the jail-break occurred he came, and hunted up his friend.

"I've thought it all out," said 8722, after shaking hands. "I'm never going back down there any more."

He made no verbose protestations of the sort of life he would lead in the future. When reminded that he might meet with discouragements, and that in his darkest hours would come insistently the call from the "men of the road," he merely repeated, with quiet conviction:

"I've thought it all out."

The ex-convict found friends at once. Most of the people at Macon knew his history, and were anxious to help him. Others shook their heads.

"A yegg—a sand-bagger!" they protested. "You can't reform a man of that kind. Better drop him, or he'll get you!"

No. 8722 was neatly dressed, very gentlemanly looking, and he acted like a gentleman, too. He did not talk much, never swore, didn't even use slang.

Once, while his friend asked himself how he had so thoroughly rid himself of the dialect of the "road," he smiled whimsically:

"I knew I was going to associate with gentlemen from this on," he replied, "and I studied those magazines, you know."

The landlady with whom No. 8722 stopped said she never had entertained a man of more perfect manners, or one who gave her less trouble.

From the moment of his arrival 8722 began looking about for work. One place was found for him, but he couldn't quite measure to the skill required. He took his dismissal without complaint. Another and better place was promised him, and he worked for it ambitiously, studying hard to make good. At last it was open, and the proprietor placed things in a certain department in his charge. But after a few days it was discovered his experience had not been sufficient to perform the responsibility assigned him. The proprietor so told him, with kind words.

Now was the real test. Failure after failure had come to the man who was seeking to make an honest living by honest work. It is the point where 99 out of 100 convicts return to the old ways.

No. 8722 was out of a job, and broke in spite of his careful saving. Just what his thoughts were at that

(Continued on page 240).



## The Slight of Hand Man.

By WILL H. GREENFIELD.

**T**IME was when the sleight-of-hand man had only to equip himself with a proper assortment of mechanical apparatus in order to mystify an audience. But that day is done. The public kept pace with the old tricks and now nature's deft implements, the hands, are almost entirely relied upon for delusions.

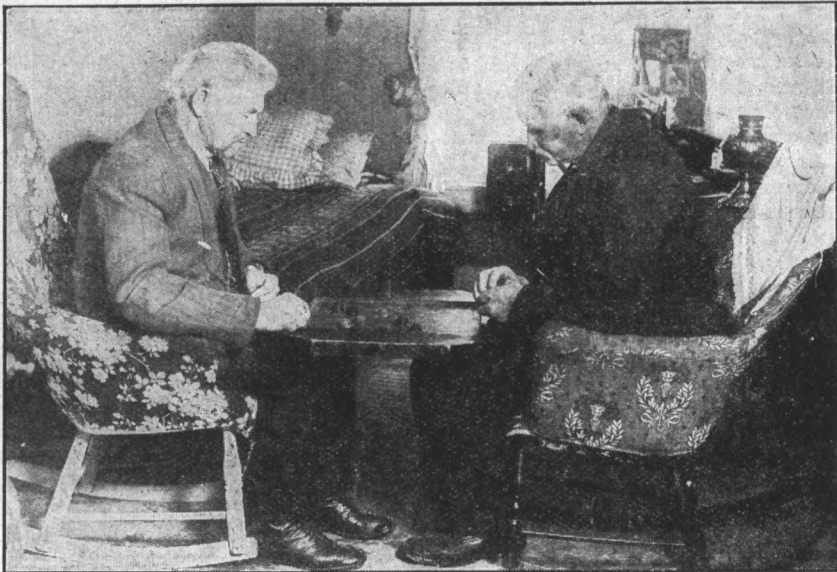
Today, the professional conjuror has to do more than mere mechanical tricks to be considered truly clever in his line. Those few who still think it looks great to work changes by the aid of boxes and tin covers do not comprehend the change which has taken place in the ideas of the public upon the matter. If they would arrange for a few friends to mingle with the members of their audience for the purpose of listening to their criticisms, they would speedily relinquish their antique methods.

Not that an old trick will not go down well—if it is a neat piece of sleight-of-hand. Most people will suggest "palming" as the solution of a trick performed with some small article such as a coin. And they may be right; but it would puzzle them to say just when the coin is palmed, and when it is not, if the conjuror is at all

the fingers of the right hand into the palm, where it strikes against coin number three, making that chinking sound which deceives the audience as to its real position. The left hand is now opened, and shown to contain but a single coin. The hand is then closed again, the coin pressed into the palm, the hand opened (care being taken not to expose the palm), and it is then allowed to drop to the side as though it were empty.

Although the palm is not displayed, the audience will assume that the hand is empty, as upon the earlier disappearance of one of the two coins the hand was so freely shown as to make it quite clear that the missing coin was not concealed in it. The production, at the conclusion, of the two coins with the right hand confirms the belief that the left hand has no secret to yield up. Performed in this way, the trick baffles those who regard "palming" and "sleeving" as a perfect explanation of tricks of this nature.

Spectators have frequently marveled at the quantity of curiously assorted articles a conjuror can produce from an ordinary hat. The trick always amuses and astonishes people,



Oblivious to the Blizzard Raging Without.

smart at his work. They may suggest the principle of an illusion, but the details, unless the performer is a clumsy bungler, will elude them.

Take a trick recently performed here in which two coins are shown placed one after the other in the left hand (the second one being distinctly heard to chink against the first as it is dropped upon it, the hand being then opened and found to contain but one of the coins. This is again placed in the left hand, squeezed for a moment, and vanishes. The right hand then produces the two coins from, say, the knee.

Here we have a complete illusion effected by the well worn dodge of "palming," plus the assistance, unknown to the audience, of a third coin. The sleeves, it should be mentioned, are rolled back beyond the elbows to show that no trickery is indulged in in that direction. When the two coins are first shown, the third is hidden in the right palm. The first coin is carelessly thrown into the left hand. The audience sees it drop there so are positive that when the hand is closed it actually contains the coin. And so it does. Coin number two appears to be thrown into the hand in the same manner. The movement of the right hand is to all appearances the same, the natural sounding "chink" is heard as the newcomer strikes coin number one; therefore, coin number two is also safely lodged in the left hand.

Absolutely marvelous, isn't it? Yes, it is not. As the left hand appears to close upon it, it is carried rapidly by

yet it is absurdly simple. The hat is borrowed from one of the audience, inspection of its interior invited to prove its empty nature, and the conjuror then retraces his footsteps to the platform. He now waves the hat, upside down, in the air. "Still empty," the spectators say to themselves. There they are wrong; for the conjuror slipped something into it from his breast pocket as he returned to the stage. As he stands holding the hat upside down he spreads out a finger or two across the opening to prevent premature revelation of its contents. Then he appears to see something in the air, and makes a swoop at it with the hat and astonishes many by drawing many yards of ribbon from it. Some of the ribbon drops as low as the floor; he looks at it—so do you. As you neglect that hat for that moment, and cannot see what he is up to, in go the handkerchiefs and the bouquet, the latter a trick article, which compresses when necessary into a very small space. He proceeds with the production of the remainder of the ribbon, turns the hat upside down again (restraining, as before, the contents from falling, with his fingers), and chases another imaginary butterfly. Then he produces the handkerchiefs, one after another, making them look as bulky as possible, then out comes the bouquet.

The bouquet, with its extensive paper frillings, is so big that he would be a poor conjuror who could not make it cover the transfer of the rabbits from the pocket to the hat. The bouquet disposed of, out come the

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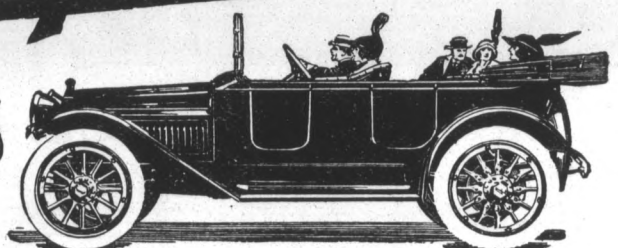
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Thor matched Thialfi, the swiftest of mortals, against Hugi in a footrace. Thrice they swept over the course, but each time Thialfi was hopelessly defeated by Loki's runner.

Loki confessed to Thor afterward that he had deceived the god by enchantments, saying, "Hugi was my thought, and what speed can ever equal his?"

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lively little rabbits, kicking with rare energy as they are lifted out by their ears. As the conjuror turns to his table to place them down, he can easily slip into the hat various other items to be presently magically produced. It will be thus understood how

one movement covers another, and how, by sheer audacity the conjuror fools his intelligent audience.

And nearly all first-class tricks nowadays depend upon hand dexterity—the ability rather to avoid than deceive the eye.

## Forecasting Storms, Frosts and Floods.

MANY people have an idea that there is something mysterious and occult about the work of the weather bureau in forecasting the coming of storms, frosts and floods. Not a few think that the observers must necessarily get their data by reading the planets, the stars and the moon. As a matter of fact, the forecaster of the bureau foretells the coming of disturbances in a business-like way, very similar to that in which a man who has ordered a shipment of goods would estimate the date of its arrival.

Suppose a business man had ordered a carload of pineapples from the Hawaiian Islands. He would know the average time it would take the steamer to make the trip to the Pacific port, the average time for unloading and loading into refrigerator cars, and the average number of days to be allowed these cars for their trip across the continent to New York. His estimate however, would be subject to error because the steamship might be delayed by fog, or the cars might meet with an accident.

Storms, like pineapples, as a rule do not originate in the United States. They come to us, some from the Philippines, Japan, Siberia, Alaska, Canada or the Gulf of Mexico. The weather bureau gets cable, telegraphic or wireless notice of a foreign storm. Station after station, or vessel after vessel, reports the storm's arrival in its neighborhood, so that the general direction and rate of progress can be determined very nearly. In fact, the arrival of some storms can be foretold ten days in advance.

The forecasters watch for the region of low barometer which is the storm center around which the winds blow. This whirl or eddy moves bodily forward with the general eastward drift of about 650 miles a day in our latitudes. As the lines of equal pressure (isobars) around the low center crowd closer together, the winds attending the storm increase in force. The forecaster determines the direction of movement of the storm and its velocity.

When weather disturbances are reported, the forecasters know from experience about how long it takes them to reach our Pacific Coast. For example, if a storm coming from Siberia drifts eastward around the North Pole and reappears in Alaska, it should appear in Washington and Oregon in about two days; should get to the Great Lakes in six days and to the Atlantic Coast in seven or eight days.

Unexpected conditions may delay storms or divert them from the straight track just as a refrigerator car may be thrown off its schedule or be shipped by accident on a wrong road. Some of these storms deplete themselves by running into regions of high barometer which are of greater magnitude and extent than the storm itself. Some of them, however, travel completely around the world.

To keep tab on cold waves that come into the United States from Canada and Alaska, the weather bureau studies the Canadian weather reports. England sends reports from Iceland, the British Islands and Continental Europe, and daily reports come from St. Petersburg on the conditions in Russia and Siberia.

The same business-like system used in tracing the track of a storm is applied in determining the arrival of frosts.

Flood forecasts are made in much

the same way. Information as to the amount of rainfall at the head waters of streams that cause floods are covered by telegraphic reports sent by local observers. As this rain reaches the main channel, the height of the water in the channel is determined by successive gauging stations. Past records establish how much a height, say of 20 feet at Dubuque, Iowa, will produce at Davenport, another station 80 miles down the Mississippi. This plan is followed all the way down the river, and at each point full allowance is made for the effects of water from tributaries, and from additional and local rainfall. As a result of these observations in the recent flood, the people of Cairo had warning a week or ten days in advance. The Pittsburgh district can be given only 12 to 24 hours' notice, because a flood is upon them within 24 hours after a heavy rain storm.

No. 8722.

(Continued from page 238).

critical juncture are known to none but his God and himself.

At this crisis 8722 learned of a job in Kansas City, something he knew he could do. He got there and entered on the work—it was to fill the place of a man who was going away awhile. No. 8722 took the position and made good. He saved a few dollars. Then the man in whose place he had been working came back, and he was again out. Expenses in the city were high, even when you live at the cheapest hotels.

8722 wandered about town seeking work. Others were doing the same thing. It seemed that for every job there were a dozen applicants, some of whom had a "pull."

Frequently 8722 met with the old comrades of the road. Kansas City is a sort of harbor for the men who raid Missouri and Kansas. These men begged their old "pal" to go out with them; said in one trip he might make more than he could in a year trying to get work; they knew of "cribs," easy to crack, towns without night police, where a good haul and a safe getaway were as certain as that water flows down hill.

The situation was desperate. 8722 was up against the Great Temptation. But—

"I have thought it all out," he repeated to himself.

While in prison he knew these things would come to pass, and had schooled himself for them.

The ex-convict decided to return to Macon and to make another start from there. He thought it might help him to be for a while with the friends who believed in him. He was anxious to get away from the atmosphere of the underworld. Without means, he had to go as best he could. Sometimes riding, more often walking, one nightfall found him in Marceline and he sought the roundhouse, where they keep the big engines. If there is anything more dangerous than the battle line it is a roundhouse at night. There are no lights save hand lanterns flitting about on the arms of men like fire-flies. It was cold and 8722 climbed up in a big engine, sat down on the fireman's seat box and went to sleep.

In time 8722 became vaguely conscious that something was happening; the engine was moving. It was dark, and he could not tell where he was. He jumped to the bangway, swung out and was crushed against the en-



trance of the roundhouse. To the earth he fell like a bundle of rags, bruised and bleeding, entirely unconscious. It was a miracle that he ever recovered. They took him back to Kansas City and put him in St. Margaret's hospital. No. 8722 had a good constitution. For years he had kept away from liquor and the pace that kills. But his bones were in bad shape. He couldn't use his right hand at all. Still he knew he would get well some time. The claim agent came to see him.

"How did it happen?" he asked.

The ex-convict told him the exact truth. The claim agent listened attentively. When 8722 had finished the claim agent said:

"According to your own statement, my friend, you haven't got the ghost of a claim against the railroad."

No. 8722 smiled.

"Didn't you know if you'd fixed it up different," the claim agent informed him, "you might have got a lawyer and sued us for big damages?"

"It was my fault I got hurt," replied 8722 simply.

"Well," said the railroad man, "I'm going to make you a present of \$75 for telling the truth, and pay your medical bills, and have 'em get you anything you want while you're sick. Yours is the first case of the sort I've ever struck, and you deserve something, sure."

8722 got out and hunted work again. He couldn't do much, with one arm crippled, but he did what he could—never rejecting anything that was honest labor. In a recent letter to his Macon friend he cheerfully describes his struggles:

"On my recent trip I worked and made right close to \$50, and it came in mighty handy. I am still a cripple and probably never will have a good arm again, but I can use it quite a bit, and can make a living. I have a prospect here of steady work at my regular trade soon. It will pay about \$60 a month, and I can live well on that, and help some of the boys who are worse off than myself."

"I am still fighting the good fight, and you will never hear of me being anything else but an honest man."

"Sincerely,

That's the story, a faithful presentation of the facts from beginning to end. Students of human nature may find interest in figuring out whereabouts along the line the thing occurred to 8722 that changed his life.

#### THE LOSER.

BY WALTER G. DOTY.

This life is a stiff proposition.  
That's true if you lose or win.  
To the man with a lot of ambition  
It means everlasting dig-in.

To win to a coveted station,  
Brings much satisfaction, no doubt;  
But really there's great consolation  
In knowing you've tried and lost out.

The heat of the struggle is ended;  
You've time to sit down in the shade;  
They're over and cannot be mended,  
The many mistakes you have made.

From back of the spectator's railing  
The thing doesn't look just the same.  
Observe the fine points you were failing  
To note in the thick of the game.

This fellow—it's rather amusing—  
Seemed winning; he's losing instead;  
And this one you fancied was losing,  
Just see how he's forging ahead.

The game! Who would seek to avoid it?  
You've played it with spirit and zest.  
Now you find, though you've played and enjoyed it,  
That the spectator's part is the best.

And truly I doubt if the winners  
Have had any more of the fun.  
You've played and coached the beginners.  
What odds if you've lost or you've won.

A large department store of Pittsburgh has announced that it will share its profits with its 4,500 employees. The plan also provides for benefits to employees who become permanently disabled.

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Your dealer will gladly sell you the famous Goodrich Tires at these prices:

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|------------|---------------------|---------------------|------------------------|------------|---------------------|---------------------|------------------------|
| 30 x 3     | \$11.70             | \$12.65             | \$2.80                 | 34 x 4 1/2 | \$33.00             | \$35.00             | \$6.15                 |
| 30 x 3 1/2 | 15.75               | 17.00               | 3.50                   | 35 x 4 1/2 | 34.00               | 36.05               | 6.30                   |
| 32 x 3 1/2 | 16.75               | 18.10               | 3.70                   | 36 x 4 1/2 | 35.00               | 37.10               | 6.45                   |
| 33 x 4     | 23.55               | 25.25               | 4.75                   | 37 x 5     | 41.95               | 44.45               | 7.70                   |
| 34 x 4     | 24.35               | 26.05               | 4.90                   | 38 x 5 1/2 | 54.00               | 57.30               | 8.35                   |

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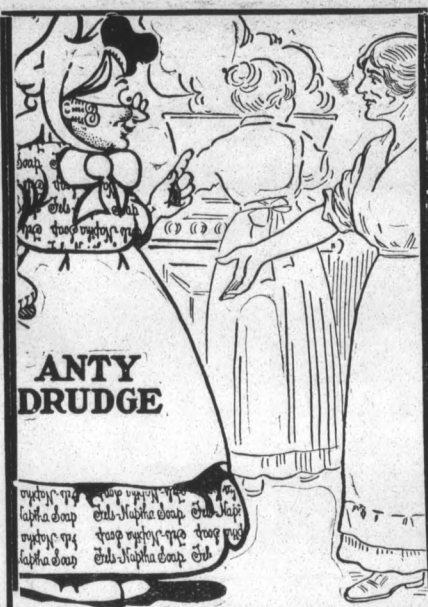
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GOVERNMENT FARMERS WANTED MAKE \$125 living quarters. Write, OZMENT 17 F, St. Louis, Mo.

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Anty Drudge—"Well, you can't settle me, because I'm old enough to have some sense—so's Mary, for that matter. She's a sight more sensible than her mother about some things! I told her about Fels-Naptha Soap and how easy it makes work."

Don't boil your clothes. Don't waste time and strength rubbing up and down on a wash-board.

Use Fels-Naptha Soap and cool or lukewarm water. Soak the clothes for 30 minutes while you do your chores. Then rub lightly, rinse and hang on the line. They'll be sweeter, whiter and cleaner than ever before, with less than half the bother, and in less than half the time.

Fels-Naptha does all your housework just as easily and well.

Better buy it by the box or carton. Directions are on the red and green wrapper.

Fels & Co., Philadelphia.



## Woman and Her Needs At Home and Elsewhere



### Youthful Mothers Have the Best of It.

WHICH makes the better mother, the young woman or the woman of riper years? The question was brought up the other day when a girl who did not look a day over twenty, came into a mother's meeting with her three small children—apparently ranging in ages from six months to three years.

"The poor little thing!" exclaimed one grandmother. "Just see how she is tied down when she should be enjoying herself."

"Nonsense!" scoffed the grandmother addressed. "How could she better enjoy herself than with her own babies? Those young girls make the best sort of mothers. They get along with children lots better than older women."

"Maybe you're right," sighed the first woman. "My daughter was 30 when her first baby was born, and she doesn't seem to get along at all. She can't get used to being put out, and," here the speaker of the day arose and the dialogue trailed off into silence.

Ever since I have been pondering on the two mothers, the girl of twenty and the woman of thirty. And I can see how the young mother probably does get along easier. To be a successful mother to babies one must have a large degree of the play element, for babies are, after all, largely playthings if they are healthy. And the girl of twenty still has play uppermost in her makeup. To her the baby is something like her doll, a thing to be dressed and undressed and washed and loved and cuddled and rocked to sleep. It scarcely occurs to her that a baby is work, and she is quite willing to neglect other things, like sweeping and dusting and pie-making, when the baby wants attention.

Besides, she has not yet become "set in her ways," as we say. This process does not occur usually until after twenty-five, and the girl-mother is not a bit put out if she can't wash Monday, iron Tuesday, bake Wednesday, etc., which she usually can not do after the baby arrives. She is not much bothered if the day's schedule is disarranged and the dishes are not all washed and dried and put away by seven o'clock each morning. As yet she scarcely has a schedule for doing things. To her life means living, not working, and there is no more supreme way of living than in enjoying her babies. She is a child with the children, and if she sometimes lacks all the wisdom the older mother has, she makes it up in the extra amount of patience and loving she can bestow. The older mother is more serious. To her at thirty play has receded and work has taken its place. Life is real, life is earnest, is her slogan. She has quite often taken up some work outside the home which she feels is of more importance than anything else. She tells herself that this outside work is important because she is doing world-work, never admitting that it is important to her only because it keeps her in the public eye and that the work would go on just the same if she should drop out of sight tomorrow. Babies interfere with this outside work, and though the mother may conscientiously put the child first there is always the little feeling that the other work is losing ground because she isn't right on the job.

Then the woman of thirty has become a creature of habits. She has certain hours of sleeping and rising and going to bed, of eating and drink-

ing and working and pleasuring which have become second nature to her. Now, as a fixed habit destroyer babies have no equal. One good live baby can break up more habits than anything else known to man, and the mother finds her orderly ways of living completely demolished. She may try her best to adjust herself to the changed conditions, but the process is bound to occasion friction and considerable irritation. In spite of herself, the mother finds two creases growing between her eyes and a querulous note creeping into her voice.

She finds her spotless house dusty, her tidy rooms upset, her schedule of the week's work entirely disarranged and the chaotic condition irritates her in spite of herself. Wise and great, indeed, is the woman who can commence the job of bringing up children at thirty and still maintain all her good temper and strong nerves.

The young mother certainly has the best of it, though grandmothers do wail because grandchildren tie down the poor mothers. The young mother is a child with her babies, and grows old along with her children, forming her habits with them so that friction is practically eliminated. It has been the fashion for a decade or two to postpone the day of marriage until one got a start. A return to youthful marriages when the family could all start together, would be a great improvement.

DEBORAH.

### "CATCHING DISEASES."

BY CHARLOTTE A. AIKENS.

The subject of "home sanitation" is found much more frequently on programs for popular discussion than it was a few years ago, and properly so. We cannot know too much about how to keep homes healthy, nor how to prevent disease. But there is still much ignorance about simple necessary measures to use in warding off disease or preventing its spread. To prevent diseases getting a start, diseases which are purely preventable, is the great work of the present generation, now that science has pointed the way and shown the causes of most of our common diseases. The battle ground of most of them is the home.

Considering how universal is the fear of "catching" diseases—and how much is known as to how such diseases are contracted, it is strange how vague are the ideas that still prevail in regard to preventive measures.

A nurse who had been called to care for a young man who had been brought home from a distance ill with typhoid fever, found that the only preventive measures the family had employed were to hold the hand over their mouths while they were in the sickroom, and to leave the patient to himself as much as possible, because they had heard the fever was "so catchin'." Bedroom and kitchen slops were thrown on the ground a short distance from the kitchen door, and the family were selling their milk. The house stood on an elevation, and the grounds sloped down to the edge of a sheet of water which was the source of the water supply for a small city of 8,000 people, a few miles away. Thus it is easy to see how this purely preventable disease is perpetuated and hundreds of other cases arise as the result of carelessness, and lack of knowledge along this line.

There are a number of ways by

which diseases may be contracted. We have what are termed, "air-borne diseases," which practically means that such diseases are usually communicated by means of floating dust. In this class are scarlet fever, measles, mumps, chicken-pox, whooping cough, tuberculosis, influenza, pneumonia and diphtheria. It is hardly necessary to say that preventive measures in such cases should be directed to proper management of the dust question. Such a simple inoffensive looking thing as a broom has often been the means of carrying infection, even though the patient was isolated from the rest of the family. The same broom that was used to sweep the sickroom was used, without washing or scalding, to sweep the kitchen. Dusting with a damp cloth, keeping the floor bare and washing up often, or liberal sprinkling with bits of damp newspaper, damp salt, or some such substance, will all help to keep the air in the home free from the trouble-making germs when these diseases are present. In addition to this, it is of course necessary for safety to know how the disease germs are thrown off the body in each disease, and how they enter.

When dealing with air-borne diseases, it is well to remember the importance of the throat in its relation to the body. Leading from the throat are seven openings. Two openings lead to the nose; two tubes known as the Eustachian tubes, lead to the ears; one opening leads to the windpipe; one to the stomach, and one to the mouth outward. The throat is the natural gateway to the body and careful, proper and frequent cleansing of the throat when infectious diseases are encountered, will prevent many serious results.

A comparatively small number of diseases are acquired by contact or inoculation. Among these are ophthalmia, a serious disease of the eye, and lockjaw. The latter is now often known as Fourth-of-July disease as so many of the cases of lockjaw each year are directly due to wounds caused by firecrackers or other explosives on our national holiday. It is safe to suspect every wound acquired in that way as a probable starting point for lockjaw. A serum which acts in much the same way as diphtheria antitoxin is now very generally used, and when used early in the history of such wounds, has proven very generally successful. The great trouble with such wounds is that they often seem so slight and are neglected. The patient is able to go about and the disease is well advanced before it is regarded as serious. The best of all preventive measures in regard to the Fourth-of-July disease, is to plan a celebration for the children without explosives. The Medical Record once called attention to the fact that the killed and wounded at the battle of Bunker Hill numbered 420. The killed and wounded, as a result of explosives in attempting to celebrate the Fourth in 1909, numbered 5,307.

Another way by which communicable diseases are spread, is by means of flies. These little pests swarm about manure heaps, garbage and filth of all kinds, and gather to themselves on their hairy legs, thousands of disease germs. Later they gain access to the house and deposit these on the food or drink which we take into our bodies.

By means of mosquitoes, rats and pet animals, also quite a number of diseases are carried, and infected clothing is often the medium by which diseases are transmitted. Scarlet fe-



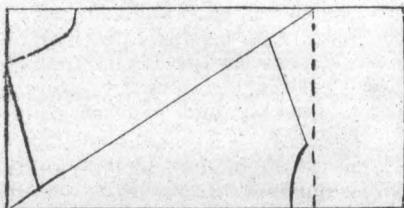
ver germs are exceedingly tenacious of life and cling to clothing for months. Pictures, books, toys and furniture have served as conveyors of this form of infection many a time. The hair of the nurse harbors the fever germs and should always be thoroughly washed after the quarantine is over.

Of the acute communicable diseases pneumonia is now the one most to be dreaded. Many people refuse to believe it is communicable and precautions are not taken to prevent its spread. The germs are thrown off in the sputum and the secretions from the throat and nose. These germs dry and are carried by means of dust through the air. A heavy cold or an attack of bronchitis or influenza leaves the individual weakened, and the lungs in favorable condition for the germs to lodge and develop. In Detroit in the month of April one year an average of about five deaths per day were due to pneumonia. It was the month of high winds and housecleaning, when dust was freely circulated in the air outside and inside the house.

#### AN EASILY MADE GUIMPE.

BY LURA W. CALLIN.

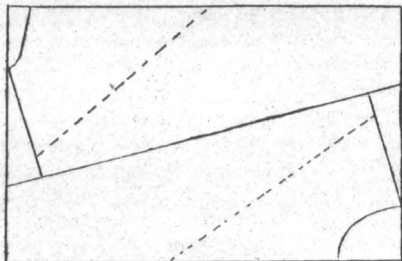
The present style of neck finishing requires a goodly supply of guimpes for the woman who can not wear a low-necked or collarless dress at all times. An easy and economical way to make them is here given. One-half yard of Indian linon and the same amount of net, 18 inches wide, are required for it. Fold the linon lengthwise through the middle and lay the front of a plain waist pattern on this



Net.

fold, then place the back piece of the patterns on the selvedge, being sure that hems are allowed and turning this pattern so the neck is cut from the opposite end from the front. Cut out along the neck and shoulders of each piece and half way down the armhole then taken the patterns off of the goods and continue each line to the edges.

Fold the net lengthwise and lay the patterns on as they were placed on the goods, allowing five or six inches at one end for a collar. Cut along the neck and shoulders to the edges on the sides, take off patterns and cut a diagonal from one shoulder to the other and you have wasted no lace when



Lining.

using 18-inch goods. Put the net in position on the linon and sew flat, stretching the net a very little bit. Cut out the linon, leaving enough to make a margin one inch wide after it is turned down on the lace and stitched on the right side. Sew up shoulder seams, either in French seam or stitching twice on the wrong side and then overcasting, drawing the thread down very tightly. This makes an almost invisible seam. Hem the long edges and turn up a half-inch hem on each end after stitching in the hems, along the back. Finish the neck with a strip of net cut crossways of the goods, sew into the neck, making a seam like the shoulder seam and then try on and turn down the top of the collar just where you want it to come.

Adjust the tape run through the hems and notice whether tapes under the arms will be necessary. Finish the top of the collar with a bit of narrow lace sewed flat along the edge on the wrong side and turned over and stitched down on the right side. Do not stitch the hems in the net until the collar is all finished, then run the hem to the top, making a neat and durable finish, and also a casing for the collar stay. This design looks larger than the one that is cut out and made with armholes, but it really does not take any more goods and not a stitch of basting need be done as there are no armholes to be bound in making—nor to bind when being worn—no seams to finish, nothing but straight work on the machine.

#### SHORT CUTS TO HOUSEKEEPING.

A few drops of peroxide of hydrogen dropped in an aching ear will almost invariably stop the pain. The remedy is harmless. Another remedy is neats-foot oil warmed and placed on a bit of cotton wool. Put this in the affected ear and a dry piece of cotton over it. Still another cure for this common ailment of childhood is a live coal placed in a dish, with sugar sprinkled over it. Put the small end of a funnel to the aching ear and hold the large end over the smoking sugar.—E. R.

The nicest way to grease a griddle is to use a large piece of beef suet tied in a thin cloth.—L. N.

Paper may be made to adhere to whitewashed walls by washing them with vinegar. When dry the paper will stick.—L. N.

For a company of children prepare a Jack Horner Pie. Tie a gift to the end of a string and fasten the other end to a bright-colored tissue paper rose. In a large dish place the gifts, a big tissue paper rose covering them and around the edges put the small roses. When all have assembled each guest takes a rose and as he or she lifts it the gift is drawn out. Gifts for children's parties should always be simple, and if mirth-provoking so much the better.—L. M. T.

#### LETTER BOX.

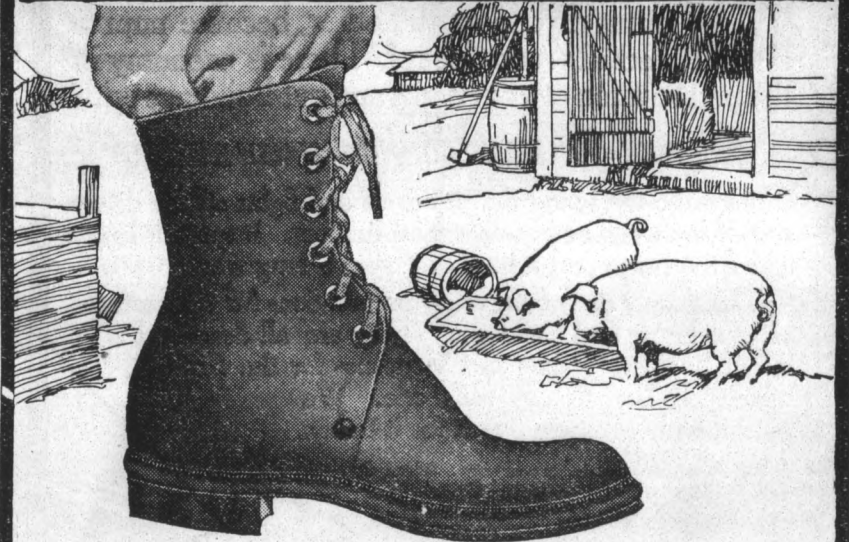
The Modern Girl is "Fighting the Good Fight."

Household Editor:—The article in your issue of December 27 entitled, "Where Are the Ideals of Yesterday?" has just come to my notice, and has moved me to the extent of offering an objection. In brief, the author says that the girls of today are without ideals; that they have no idea of duty, sacrifice, and service to another; that the parents of the present generation are encouraging their children in slothfulness and ease; that the public schools are breeding places of shiftlessness and incompetency.

Ah! The situation is truly terrible! And, in contrast to this present chaotic condition, what is offered? A view of the ideal existence of some thirty (or more), years ago when the rural delivery and telephone were unknown and when no polluted breath of the city could enter the properly conducted rural home. And, within this sheltered nook, the youthful mind might dwell upon the "real things of life."

First, I must say that the author has either been very unfortunate in her acquaintance of girls of today, or she has been grossly deceived by purely extreme appearances. Neither of these conditions warrant the conclusive statements that are made in the article referred to. Just because the modern girl does not appear untidy, unfashionable, and ill at ease, just because her sole stock of conversation does not consist of the "milk-and-water" platitudes that were gently murmured by the proper heroine of the cheap mid-Victorian novel, and just because she does not spend her vital, precious young hours in dreaming of doing one noble spiritual deed

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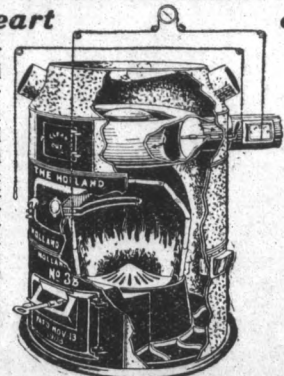
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Has fewer joints, smaller joints, is simpler and easier to operate than any other make. It will burn any kind and all grades of fuel—hard coal, soft coal, slack or wood—without waste of gases, without internal explosions and without opening of joints. You can buy no cleaner heating plant than a Holland Furnace.



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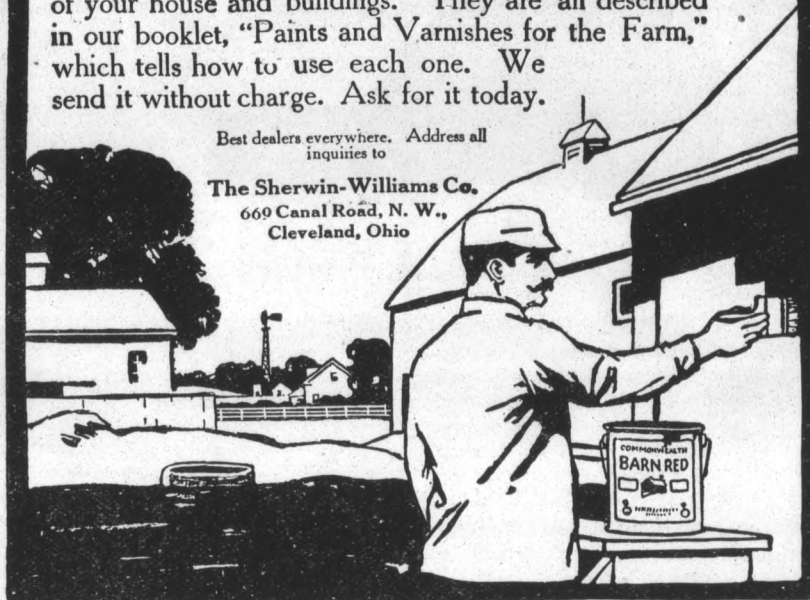
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1 cup Aristos Flour  
2 level teaspoons baking powder  
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and then dying (in the approved mid-Victorian fashion), there is no reason for supposing that the modern girl is a poor, weak, vacillating creature with "no moral backbone or fine soul fibre."

The girl of today is meeting the demands of modern problems. I admit that she is not sitting at home and meditating upon life's values, for she realizes that narrow seclusion will never bring the real problems of life before her. But she is fighting her fight in the open and she is doing it without recourse to peurile maxims and wise sayings.

The objection of the author to the system practiced in our public schools bespeaks a lamentable unfamiliarity with the effort being made by the leading psychologists and educators to introduce a scientific method of mental control into our public schools. To my mind, the attempt that is being made to make the attaining of knowledge as much a natural process as breathing, is one of infinite importance to the coming generations. A knowledge and application of the principles of eugenics and psychology will do much more good than the coddling of an inactive, but pretty, set of ideals.

And, in the end, the author lays the blame upon the parents. Home training, she says, is the root of the trouble. But why, may I ask, are these parents so incompetent? Were they not brought up in the good old unscientific days? If they are to blame for this lamentable condition of affairs are they not quite as unfitted to be the "mothers of men and women" as are the members of the present generation? And if the old regime has produced such a weak, easily influenced set of people, as our author would have us believe, would it not be well to let the modern system have a fair chance before condemnation is pronounced?

I wish that our author would look about a bit before she writes a similar article; I wish that she would consider the work that young college women are doing in the settlements of our great cities; I wish that she would look upon the eager young women who are making many of our states cleaner and better by means of a thoughtful exercise of the ballot; I wish she would look into our training schools for nurses, and into the professional and scientific departments of our great universities; I wish that she would visit our great charitable hospitals and our factories and our offices and even our terrible sweat shops. And, having seen all of these things, I wonder if she will say that the girl of today has no idea of service, sacrifice and duty; and will still cling to the idea that the dominant god of these strong, sane-minded, clear-eyed, resourceful girls is the God of Pleasure?—Leonie Kimball.

#### MISTRESS OR SLAVE—WHICH?

BY MRS. F. NISEWANGER.

In the housekeeper's domain there must be a ruler; either the farm-wife rules her work or it rules her. Occasionally, it is true, even the best executive ability can hardly control affairs for a few rushing days, but generally it depends mostly upon the wife whether she is to be mistress or slave, and there are too many slaves.

Too many mothers "haven't time" for an occasional half-day off with the children, when the fact is that the rest and relaxation this would bring would much more than pay for the few hours spent, aside from the greater truth that both mother and children need this comradeship in play.

Too many busy housekeepers "haven't time" to accompany husband on his business drive, to call on a friend, or to read that helpful article, the bright story, or even the current events of today that go to make up the history of tomorrow. And the

worst of it is that this little thief, "I haven't time" isn't usually nearly so important as he tries to make out; but the best of it is that he can usually be vanquished by method, governed, of course, by common sense.

If the housework is to move along at all smoothly or successfully it must move systematically. It doesn't so much matter just what the system is, yours may be quite different from your neighbor's, but some definite plan must be employed in disposing of the various tasks of the days, weeks and seasons or there will be frequent blockades, with the housekeeper lost to sight under the stack of accumulated tasks, and the home given over to chaos.

But, on the other hand, the system followed must not be so inexorable as to admit of no stretching or transfers or omissions, else our mistress will again be slave. Sometimes it is more important to call on a neighbor than to dust the parlor, or to cuddle the baby than to make an elaborate dessert.

Two farm wives of my acquaintance are rather striking examples of the to-be-desired and the to-be-avoided points of view.

One is home mistress in a family of seven. With the help of her eight and nine-year-old girls, most of whose time is naturally given to school-work and play, she does all the housework, laundry work, sewing, etc., raises some poultry for market and does enough dairy work to pay the grocery bills. She finds time to make a few calls on neighbors and the school, entertains a little, makes necessary trips to town, and reads the dailies sufficiently and the farm papers and magazines considerably.

Her plan is to use the forenoons of the week days for her big household duties, washing, ironing, churning, sweeping, baking and general cleaning, which leaves the afternoons for odds and ends, sewing or recreation. Everything runs so smoothly that if a change in the regime seems desirable or best, it can be made with little or no discomfort or inconvenience.

The second wife is work-slave in a family of three, although she has had twice the years of experience, the same general good health, and does none of her sewing, not even the plainest. She is always buried in work and never gets anything done on time. Her washings are done any day that seems not to be too full of something else (frequently lapping over into the second day), and the ironings done any time from three to ten days later.

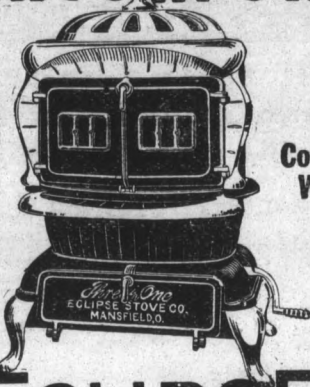
Company has more than once been invited to dinner and when everything else was ready, the hostess has remembered that there is not a crumb of bread, hot or cold, in the house. Biscuits are the solution, but an injured dinner and aggravated appetites are the more immediate result.

Churnings are usually done evenings with the help of her husband, and Sundays become a sort of catch-all for scraps of unfinished work instead of being the day of rest and relaxation that is needed. And yet this good woman is not of an indolent or careless nature. She loves order and neatness but lacks method and management. Probably few women work harder or for more hours than she, but fortunately the most make a better showing for the time involved. With no work planned ahead and her mind absorbed with the simple, mechanical task of the moment, the case is purely one of wasted energy, much labor minus brain-direction.

Within our souls we may be permitted to moan, "Man's work is from sun to sun, but woman's work is never done," but the comfort and happiness of ourselves; our families, and our friends is greatly augmented if our work, at least usually, has the appearance of being pretty well done. After all, a martyr's crown is an uncomfortable thing to wear.



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## Farmers' Clubs

## CLUB HISTORIES.

## North Marshall Club.

The North Marshall Farmers' Club held its January meeting at the beautiful new home of its president, C. R. Sweet and wife, in Ceresco on the 21st of the month. This meeting was the celebration of the ten years of the Club's existence and in connection with the event the secretary prepared the following report: The North Marshall Farmers' Club was organized at the Cleveland schoolhouse on January 19, 1904, and the first meeting was held on January 29 of that month, and has always held its meetings since that time on the third Wednesday of each month. It has been affiliated with the State Association since its organization and never in its history has it failed to be represented at Lansing annually. The roll call was instituted at the beginning of the year 1905 and the secretaries have kept a true record of attendance, and I find that Mr. and Mrs. Fred Randall have been your strongest support and most loyal. I find there has been five years of the ten that Mrs. Randall has not missed a meeting and that she has been absent but nine times, while Mr. Randall's record shows an attendance worthy of mention, too, when it is known there have been 114 meetings, Mr. Randall being absent but 23 times and Mrs. Nettie Thomas 25. There has been a secretary's report given of every meeting but one, July, 1904. In the history of the Club it has missed but six meetings and three of these during 1913. The Presidents have been: James King, three years; Edward Scott, three years; Fred Randall, two years; C. R. Sweet, two years. The secretaries: C. C. Day, one year; Nettie Thomas, two years; Miss Ella Randall, two years; Mrs. Clara Walkinshaw, two years; Elsie King, one year; Nettie Thomas, two years. Five times in the month of August the Club has had a picnic at the home of some of its members, with speakers outside local talent. Death has claimed 20 of those on our membership list, while several have moved away, and each secretary makes a new roll call in the month of April of each year.—Nettie J. Thomas, Cor. Sec.

## CLUB DISCUSSIONS.

**Discuss Road Topics.**—The February meeting of the Wixom Farmers' Club was entertained by Rev. and Mrs. Faye Cilley, at their home in Wixom. After a sumptuous dinner was served the meeting was called to order and a good program was rendered. The topic of the day was, "How to secure better roads for our community," led by B. A. Holden, who said: "There are two points to be considered: What we can do in a political way; and, second, see that the right man is named for highway commissioner." "Annual roads day" was given by Mr. Eugene Furman, who said he thought if the farmers would each donate a day's work, we would be sure of that much of good roads, and the ladies, for their part, might furnish a good dinner. The last question on the program was discussed by B. T. Nicholson, "How can we secure help through our highway commissioner?" He gave us some valuable hints along the line, but said it was next to impossible to get satisfactory results under present conditions.—Mrs. R. D. Stephens, Cor. Sec.

**Will Hold Corn Contest.**—The Salem Farmers' Club held the first meeting of 1914 at the pleasant and commodious home of Mr. and Mrs. Frank Soult. A company of guests numbering about 70 gathered and greatly enjoyed the day. After a bountiful dinner, the program was given, consisting of well rendered selections, Mrs. Edwin Smith giving a recitation entitled, "Friendship," which was greatly enjoyed. Also a select reading by Mrs. C. Ross, containing the thought of "A little recreation amid your toil." Daniel Smith gave "Xmas Angels," by request, and Harmon Gale gave a humorous number entitled, "Gowns." Music on the phonograph was furnished by our hostess, also piano solos by Miss Grace Geiger and Ruth Ross. The Club held its February meeting at the home of Mr. and Mrs. Albert Vanatta. This was an especially pleasant meeting, as Mr. and Mrs. Vanatta are old friends and we have not met with them for some time. Their spacious rooms were well filled with above 70 guests, and a bountiful dinner was followed by an equally excellent program. A paper was given by Mrs. Robert Ross, on "How to Manage Husbands." This was brimfull of humor and good sense. Club voted to hold a corn contest.—H.C. T., Reporter.

## Grange.

## LECTURE CONFERENCES.

Miss Jennie Buell, lecturer of the Michigan State Grange, wishes to meet all lecturers in attendance at the different meetings mentioned below. In each case the conference will be in conjunction with other programs. The first conference will be held on March 5 and 6, at 2:30 p. m., in connection with the Country Life Conference at the Michigan Agricultural College, East Lansing. The lecturers will please meet at the close of the afternoon session of the first day. The second conference will be held on March 13 at the Western Normal School, Kalamazoo, at 10:30 a. m., and the third Conference will be held March 25 at Pontiac in connection with the Oakland County Grange Rally. The state lecturer is particularly anxious that all the subordinate lecturers be present at one or the other of these three conferences.

## A LIVELY GRANGE MEETING.

The Oceana Pomona Grange entertained the Muskegon Pomona on Friday, February 13. Hart Grange acted as host and the meeting was held at the Grange Hall in the village of Hart. Hart Grange is splendidly alive. It is a fine social center, an active business organization, and a farmers' school all in one. The forenoon was spent in visiting and early after dinner the program opened with an address of welcome by Rev. N. M. Jenkins, pastor of Hart M. E. Church, and a member of Hart Grange. He spoke eloquently of the power of organized effort, and paid a fine tribute to the Grange as a large part of the "Great School out of School."

The first speaker, Judge Stephen H. Clink, of Muskegon Grange, spoke upon "The high cost of living." He said in part: "In all the wonderful growth of our country the tendency has been to centralize our population. Eighty years ago there were 375 people in the now city of Chicago when the census was taken in the spring. During the summer the population increased so fast that another census was taken in the following autumn and the population was found then to be 485 souls. Today there are as many people in Chicago as there are in the whole state of Michigan. At the close of the war, we had practically 38,000,000 people in this country and the number is now 1,000,000,000.

Is it anything strange that the cost of living has risen? It is not long since we were exporting 200,000,000 bushels of wheat annually. Now we export only a very little, and the time is near when we shall need all we produce, and more, to satisfy our local needs. We used to boast that we could produce meat to feed the world but that is all passed now, and we have practically no more land to bring under cultivation.

"We speak now of the high cost of living," but the day is not far off when we shall look back to these days as the period of the low cost of living. Prices of meats and dairy products will soon be much higher. The farmer who cannot live in the years that are at hand, and lay up something for old age, should have a guardian."

Brother O. F. Marvin gave an instructive talk on "The Culture of Alfalfa." Brother Marvin told of one field that yielded five tons per acre last year, and had given an average annual yield of over four tons since he began cutting it five years ago. He spoke of the value of a proper location, of thorough tillage, and of lime and inoculation. He said the hay covers were helpful in curing the hay, but it took time, and if one had a large amount to harvest it might not pay to take the trouble to use them. He had sown some orchard grass with alfalfa and gotten a good stand of orchard grass.

Mrs. Munger made a strong plea for the birds. They destroy insects and other pests, and yet she said her chief reason for wishing to protect them is because she loves the birds for their songs, and their beauty.

Brother E. P. Mills, of Montague, gave a talk upon the relation of the farmer to the bank. He advised all farmers to do their business through a bank.

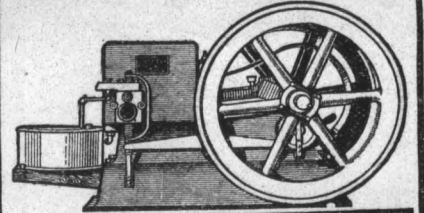
The convention went on record for engaging an agricultural agent in Oceana and Muskegon counties.

Oceana Co. W. F. TAYLOR.

## COMING EVENTS.

## Pomona Meetings.

Wayne County Pomona meets with Plymouth Grange, Saturday, March 7. Edward H. Hines lectures, with stereopticon views. Fifth degree conferred by Belleville Team.



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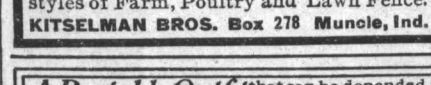
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## Grain Wasted Is Money Lost—

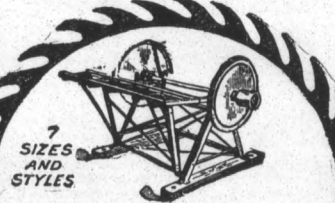
You would not throw your money away. Then don't permit a thresherman with an incompetent machine to do it.

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It is different. It beats out the grain instead of depending upon its dropping out. D. C. Kimball and six other farmers of Cando, North Dakota, say: "We honestly believe it has saved us enough to pay our thresh bills. It cleans so there is less dockage at the elevators." Hire a Red River Special this year yourself and save enough more to pay your thresh bill. Write for "Thresher Facts."

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# Farm Commerce.

## Four Classes of Egg Buyers.

**T**O whom should a farmer sell eggs? He should sell to the party from whom he can realize the largest net profits considering the convenience of, and the requirements necessary for, transacting the sale.

Generally speaking, there are four classes of egg buyers. They are the country groceryman, the commission man, the city retailer and the consumer. Local conditions usually dictate to what class one should sell, and since the readers of this journal understand the local conditions, a rehearsal of the advantages and disadvantages of selling to the different classes will enable each to choose a market more intelligently.

### Selling to Country Stores.

Carrying the eggs in any receptacle to the country store where trips are frequently made, is the most convenient manner of disposing of this product. By reason of this convenience the country store receives almost the entire output of eggs from outlying districts. It is the way that offers fewest obstacles, and since the returns are immediate the country merchant will continue to handle the bulk of the product for some time to come.

Now a condition that appears as an advantage to most sellers, but which in reality is a waste, should be noted. In selling eggs to the country store they are not graded. The farmer who brings in ten dozen of freshly laid eggs gets the same price for them that a neighbor gets for ten dozen in which there are three dozen of rotten ones. The careful farmer must take a lower price for his eggs because of the carelessness, or outright dishonesty, of his neighbor. While we hope that the country stores will change their method of buying eggs so that only good ones will be paid for, it remains a fact that now but few are practicing the "loss off" plan.

Perhaps largely for the above reason the country store is not a popular place for the progressive poultryman to sell eggs. He knows the eggs he sells are better than the ordinary run and he wants to go where they can be sold upon their merit. The local merchant knows him personally and perhaps recognizes that his eggs are worth more than his neighbor's, but the merchant fears that if he should pay a higher price to one person than to another that the reports would create enemies, a thing that the average country store keeper must avoid if possible. Hence the average quotation paid for eggs at these stores is kept low to protect the merchant against loss from bad eggs. So the low prices paid by the local buyer has driven many producers to sell to one of the other classes of buyers.

### Shipping to Commission Men.

While commission men have a reputation among producers that is not to be envied, many farmers and poultrymen deal with these middlemen to advantage. Some of the advantages of selling the egg crop to commission men are a slightly higher price than is paid by the local buyer, a capacity to take all one has for sale, and, if one is fortunate in getting in touch with a good concern, prompt remittance for the shipment. On the other hand, it is not always easy to find a commission man on whom one feels like placing reliance and, too, one must consider the risk of poor collections.

In our large cities there are large wholesale firms that buy eggs outright. They pay the farmer so much for cases sent to them. Many of our readers find the returns from such firms very satisfactory, and they state

that it is about as easy for them to ship to these firms as it is to take eggs to the local dealer. They have to wait a day or so for their check, but usually the increased amount pays well for the wait.

### Dealing with Retailers.

Of the numerous replies to the questions appearing in a recent number of *The Farmer* on the "Marketing of Eggs," the majority of the satisfied farmers were selling their eggs to retailers in large cities. They arrange with some groceryman to make shipments to him as the eggs accumulate in sufficient quantities. The retailers are in a position to give a better price than the commission men, they take all the farmer has to sell and remittance is usually made without delay. These dealers appreciate quality. Their customers criticize favorably or unfavorably what is bought, with the result that the merchants are well informed on what is received. This makes them anxious for first-class goods, and skeptical about the shipments of those in whose consignments have been found eggs of poor quality.

Now the two disadvantages that may be mentioned in dealing with retailers are that they cannot pay quite so large a price as the next class of buyers and the seller must pay the strictest attention to the quality of eggs forwarded. Very few complaints have come in of farmers who have lost money through sending eggs to merchants, although there is a danger of this and we would warn readers to take all the precautions possible to protect themselves against loss through bad collections.

### Shipping Direct to Consumers.

The last class of buyers we shall mention are the consumers. It is from the consumer that the farmer can realize the best price for eggs. There are no commissions or charges outside of the legitimate cost of handling the shipments. Then, too, quality counts where one sells direct to the people who eat the eggs. The progressive poultryman who is anxious to sell his skill to the best advantage should make an effort to get private families to take eggs from him.

There are, however, disadvantages in this method of selling eggs. As suggested above, the eggs must be of superior quality. Then, too, the orders are frequently small, although in many instances arrangements have been made with parties so that full crates can be sent to some person in an office or shop, and he secures among his fellow workmen orders sufficient to take the 30 dozen, receives payment from them and sends it to the producer. In this manner the full output of one farmer can be handled by shipping to one address. Again, it frequently happens in the fall and early winter months that there will be too few eggs to supply the demands of the regular customers. This inability to supply the patrons regularly works a little inconvenience but usually the advanced price during the season of short supply decreases the consumption to a point where it can ordinarily be taken care of by the wide-awake man. Some complaints have come to us of consumers being poor pay. But these instances are few and those coming to our attention could have been avoided had the producers refused to send goods to parties who were then owing on former shipments. A good rule to follow is to see that all shipments are paid for before another is made. The prompt paying and appreciative customer is valuable so keep him.



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## Crop and Market Notes.

### Michigan.

**Livingston Co.**—The weather is severe, the temperature hovering around the zero mark, the lowest being 13 below zero. Roads are in fair condition, but are drifted some. Sleighing is good. Wheat and clover have been covered with snow the greater part of the winter, and have suffered but little so far. There is not much grain going to market, beans and wheat being all there is left in the farmer's hands. The few hogs being sold bring \$8 per cwt; wheat 90c; rye 58c; potatoes 55c; oats 37c; corn 70c; eggs 26c; butter 26c. Farmers are getting ready to do considerable building the coming season.

**Kalkaska Co.**—We are having severe winter weather, with about six inches of snow. Wheat and meadows are apparently in good condition. The roads are good but icy. Hay is scarce, but other rough feed is quite plentiful. Hogs and cattle are in great demand by shippers, who offer as high as \$80 per head for entire herds of cows. Stock of all kinds is in fine condition. Farmers are moving the remainder of their potatoes, although the market is not very satisfactory.

**Sanilac Co.**—The weather is very changeable, with scarcely any snow. Conditions are not quite so favorable for wheat, rye and meadows, as we have had severe frosts. Butter has taken a decided drop, and the high-priced cows are not paying out. Creamery butter brings 26c, with prospects of a further decline. Prices on all produce is rather low, also land formerly valued at \$125 now finds no buyers at \$75. Considerable hay is still in farmers' hands, and is slowly going to market at \$9@11; wheat 92c; oats 35c; beans \$1.70; barley \$1.25 per cwt; potatoes 60c.

**Mecosta Co.**—The weather has been exceptionally good all winter. Fall seeding is looking good. Some potatoes are being marketed at around 50c. There seems to be considerable uncertainty around here as to what is best to do regarding the potato situation. Some live stock is being sold. Hens are laying well.

**Branch Co.**—We have had a fine winter. The roads have been excellent. Wheat and rye are looking well. Stock and some grain going to market at the following prices: Wheat 95c; corn 65c; oats 37c; buckwheat \$1.70 per cwt; hay \$12; butter 28c; eggs 28c. Hens are beginning to lay some. The Extension Short Course which was held at the county seat January 26-30, was quite largely attended, and much appreciated. Considerable interest was manifest at the corn and farm products exhibit.

**Saginaw Co.**—There is plenty of snow, and roads are in good condition. Very little wheat was sown last fall, and this is looking fine. There is a considerable quantity of beans yet to market, dealers paying \$1.70 per bushel. Milch cows are selling high, good grade Holsteins bringing from \$75@125. Hogs are scarce, and pork brings around \$11 per cwt. Several institutes are scheduled, and profitable meetings for discussion of farm subjects are being held by the County Superintendent of Agriculture.

**Shiawassee Co.**—Weather cold and sleighing excellent. Winter crops well covered and doing nicely. Farmers are becoming more interested in dairying. Sheep feeders are somewhat uneasy relative to spring markets, very few feeders will attempt the second feed. A farmer here and there is preparing to go into the beef raising business, a few calves of good breeding are being purchased by farmers. Hogs not very plentiful. A few farmers selling off hay, but little grain is being moved. Fewer contracts for sugar beets are being secured than formerly. A few new barns will be constructed as soon as spring opens up.

### New York.

**Chautauqua Co.**—Grape growers are busy taking out the brush, while some have still much to prune. Roads are in splendid condition. There is no grain for sale but plenty of hay and a little stock sold. Hay \$11; straw \$7; apples \$1; cows \$25@80; veal dressed, 14½c; hogs, dressed, \$10; mill feeds are very high.

### New Jersey.

**Monmouth Co.**—Nearly all grain and stock has been marketed. Poultry and milk are about all that is being sold at this time. Most roads are fairly good. There has been considerable plowing done, some farmers having finished their plowing.

**Morris Co.**—Until recently the weather has been warm and cloudy, but we are having lower temperature of six or eight above zero, with very little snow. Roads are good. Wheat and rye are looking fairly good, but this weather is hard on them. Very little grain is being sold. Rye straw \$15; hay \$18 per ton.

### Ohio.

**Fairfield Co.**—We are having our coldest weather so far this winter, the

temperature being three below zero. Wheat is looking well for this time of the year. Roads are in bad condition. Horses are not quite as high in price as last year. Hogs and cattle are getting scarce. Fat steers \$7@7.50; fat cows \$3.50@5.50; sheep \$4@5; hogs \$7@8; wheat 93c; oats 40c; corn 63@65c; fresh cows \$50@80 and scarce; butter 28@30c; eggs 25c; chickens 12c lb; potatoes 80@90c per bu; apples retail for 4@5c per lb; hay \$14 per ton; baled straw \$6.50@7.

**Hardin Co.**—Wheat and rye are looking well and bid fair to be a good crop. There are but few hogs in this section on account of the cholera last fall. Few steers fed on account of the high price of feed. Roads are in fair condition. There has been a great deal of plowing, also some ditching, done, on account of the mild season. Hogs \$8; hay \$9@10; eggs 30c.

**Ashtabula Co.**—The weather is cold and blustery; there is no sleighing and the roads are almost impassable. The scarcity of snow makes it very hard on wheat and rye. A few sugar camps have been opened, and good runs of syrup are reported, bringing \$1.25@1.50 per gallon. Sales are numerous, owing to farms changing hands. All stock sells high. A few are baling hay now for \$2 per ton. There is not much to be done excepting chores, working in sugar camps and cutting wood. Potatoes 70c; butter 28c; eggs 26c; pork, live 10c; beef dressed 10@11c.

**Brown Co.**—There is a light snow on the ground and the weather is a great deal colder than it has been for some time. Wheat is looking good for this time of year. Farmers are buying some corn and some roughage. The roads are in good condition. Eggs 20c; butter 20c.

### Illinois.

**Marion Co.**—After a very mild winter we are experiencing a bit of real cold weather. This, however, is welcome, as it prevented the premature budding of the fruit trees. Only one light snow has fallen so far, but the wheat and rye have not suffered, and appear to be in excellent condition. The roads have been kept fairly good by the use of the road drag, but are bad at present. All the hogs have been marketed, and except for butter at 27c and eggs at 28c, few products are being sold. The farmers of this locality have been interested for the past week in attending a local school of fruit growing conducted by men from the University of Illinois.

### Missouri.

**Phelps Co.**—Wheat and rye are looking fine and have not been hurt so far by the zero weather that we have had since February 6, although there is no snow to protect it. The farmers are preparing to have one of the largest crops ever grown in this county in the way of forage, corn and oats. During January they were busy plowing their ground and getting ready for same. There is considerable grain for sale in the way of wheat and corn. Live stock is scarce. Horses and mules are a good price. Hogs \$7.50 @8; cattle average about \$7.25; butter 25c; eggs 27c. The roads are not as good as they could be.

**Vernon Co.**—We have had an open winter, with very little snow and the ground is in good shape for plowing. The roads have been good most of the time. Wheat is looking fine, and has been pastured most of the winter. There is not much stock being sold now, only a few hogs. Corn has been shipped in all winter at 71@85c per bushel. Oats 45c; hay \$12.50; hogs \$7.50; chickens 12c; butter 20c; eggs 22c per dozen.

### Nebraska.

**Otoe Co.**—Real winter weather prevails with the thermometer registered 12 below zero. Farmers have been busy with the ice crop. Public sales are about all over for the year. Roads are excellent. Wheat is in good condition so far, but if cold weather continues wheat may be injured. About 10 per cent of last year's crops are still in the farmers' hands. There is not much stock being sold. A few farmers are getting low on feed for stock. Farmers are busy getting up their summer fuel supply. Wheat 78c; oats 40c; corn 65c; cream 22c; eggs 20c; hay \$4@10 per ton; a few hogs being sold at \$8.

**Hitchcock Co.**—The warm weather we have been having changed very suddenly, the temperature falling to ten below. Wheat is all looking fine. There is but little snow. There are many public sales. Cattle sell very high, horses not so well. No grain is being sold except for seed. Corn is being shipped in at 75c; wheat 72c; hogs \$7.75; butter-fat 22c; eggs 20c.

**Pierce Co.**—The weather is fine and roads are good. We have but little snow. A few hogs going to market at \$7.50; corn 50c; chickens 10c; butter 25c; eggs 25c, though not many eggs coming in; hay \$10. Cows that are in good condition bring good price at sales; other stock and machinery do not sell so well.

**Cass Co.**—We had remarkably fine weather until recently the tempera-

(Continued on page 248).

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# Markets.

## GRAINS AND SEEDS.

February 24, 1914.

**Wheat.**—While prices rule a fraction higher, the trade seems to be about steady with last week. The statistical situation favors a steady market. Argentine is an unimportant factor this year, while Australian advices confirm a short crop in that country. The movement of wheat last week between the large markets has been liberal. Farmers, however, are delivering less than they were a year ago. At present practically all of the winter wheat belt is covered with snow so that extreme low temperatures can do little damage. The American visible supply decreased over a million bushels the past week. The price for No. 2 red wheat one year ago was \$1.09½ per bu. Quotations for the week are as follows:

|           | No. 2 | No. 1 | May   |
|-----------|-------|-------|-------|
| Wednesday | 99    | 98½   | 1.03  |
| Thursday  | 99    | 98½   | 1.03  |
| Friday    | 99    | 98½   | 1.03  |
| Saturday  | 99    | 98½   | 1.03  |
| Monday    | 99    | 98½   | 1.03  |
| Tuesday   | 99    | 98½   | 1.02½ |

Chicago, (Feb. 24).—No. 2 red wheat 96½c; May 94½c; July 89½c.

**Corn.**—This deal continues steady with the closing price of a week ago. The amount of corn in sight is a little over one million bushels greater than for this date in 1913. The cereal is being marketed quite liberally in sections where the crop yielded well. Feeding has been stimulated by the recent cold wave, and it is hoped that this influence will improve corn values. The visible supply is substantially the same as a week ago. In 1913 No. 3 corn was quoted at 49½c per bu. Quotations for the week are:

|           | No. 2 | No. 2 | Yellow |
|-----------|-------|-------|--------|
| Wednesday | 62    | 62    | 64     |
| Thursday  | 62    | 62    | 64     |
| Friday    | 62    | 62    | 64     |
| Saturday  | 62    | 62    | 64     |
| Monday    | 62    | 62    | 64     |
| Tuesday   | 62    | 62    | 64     |

Chicago, (Feb. 24).—May, corn 66½c; July 65½c; 65½c.

**Oats.**—This grain rules steady with values within a fraction of last week's quotation. The amount of oats in sight in this country is 22,077,000 bushels, as compared with 12,887,000 bushels a year ago, when the quotation for standard was 34½c per bu. Quotations are as follows:

|           | No. 3 | White |
|-----------|-------|-------|
| Wednesday | 42    | 41½   |
| Thursday  | 41¾   | 41¼   |
| Friday    | 41¾   | 41¼   |
| Saturday  | 42    | 41½   |
| Monday    | 41¾   | 41¼   |
| Tuesday   | 41¾   | 41¼   |

Chicago, (Feb. 24).—Standard oats 40½c; May 66½c; July 65½c.

**Beans.**—A little better feeling prevails and prices are advanced 3c. The local board of trade quotes immediate and prompt shipments at \$1.85; March \$1.90 per bu. Chicago reports a quiet trade. Pea beans, hand-picked, choice, are lower at \$2; common \$1.75@1.85; red kidneys, choice, \$2.80.

**Rye.**—This cereal is steady. No. 2 is quoted at 67c per bu.

**Barley.**—At Chicago barley is quoted at 50¢@70¢ per bu., while Milwaukee quotes the malting grades at from 54¢@68¢.

**Timothy.**—Prime spot is lower at \$2.40 per bu.

**Alfalfa.**—Steady at \$7.25 per bu.

**Cloverseed.**—Market is lower at Detroit at \$8.25 per bu; alsike at \$10.50; Toledo prime cash is quoted at \$8.35 and prime alsike at \$10.45.

## FLOUR AND FEEDS.

**Flour.**—Jobbing lots in one-eighth paper sacks are selling on the Detroit market per 196 lbs. as follows: Best patent \$5.30; second \$5; straight \$4.75; spring patent \$5.10; rye flour \$4.40 per bbl.

**Feed.**—In 100-lb. sacks, jobbing lots are: Bran \$23.50; coarse middlings \$27.50; fine middlings \$29; cracked corn \$29; coarse corn meal \$28; corn and oat chop \$25 per ton.

**Hay.**—Trade is easy with prices steady. Carlots on track at Detroit are: No. 1 timothy \$14.50@15; standard \$13.50@14; No. 2, \$12@13; light mixed, \$13.50@14; No. 1 mixed \$12.50@13; No. 1 clover \$12@12.50.

New York.—Market steady. No. 1 timothy \$20.50@21; No. 3 standard \$15@20; light clover mixed \$18@19; clover \$17@18 per ton for large bales.

Chicago.—All grades lower. Choice timothy is quoted at \$15@16 per ton. No. 1, \$13.50@14; No. 2, \$11.50@12.50.

**Straw.**—Steady except rye straw, which is lower. Rye \$7.50@8; oat

straw \$7@7.50; wheat straw \$7@7.50 per ton.

Chicago.—Quotable as follows: Rye \$6.50@7; oat \$7@7.50; wheat \$6.50@7.

New York.—Rye straw \$15@17 per ton; oat straw \$11@12.

## DAIRY AND POULTRY PRODUCTS.

**Butter.**—Market is steady; local receipts fair; prices are unchanged. Quotations: Extra creamery 30c per lb; firsts 28c; dairy 21c; packing stock 18c.

Chicago.—Market is quiet, the demand being light; more of the better grades available, but the prices remain the same. There is some complaint as to the lack of color in some of the high quality kinds. Extra creamery 29½c; extra firsts 28@29c; firsts 25@27½c; seconds 23@24½c; lads 20c; packing stock 18c per lb. Elgin.—Market steady but quiet at 30c per lb.

New York.—Market is firm and the demand is active; prices unchanged. Creamery extras 30@30½c; firsts 27@30c; seconds 24@26c; packing stock 19½c per lb.

**Eggs.**—Market steady with prices 1c lower than last week. Current receipts of fresh stock is quotable at 26½c per dozen.

Chicago.—Cold weather has kept the market firm and it is expected that arrivals will be light for several days. Some poor lots and stale eggs received are sold at irregular prices. Miscellaneous lots, cases included, 24½@25½c, according to quality; ordinary firsts 24½@25c; firsts 25½@25¾c; refrigerator stock steady at 21½@22½c for April firsts.

New York.—Conditions are firmer than last week. But little change in prices. Fresh gathered extras 31@31½c; extra firsts 30½c; firsts 29½@30c per dozen.

**Poultry.**—Local market holds firm on account of light receipts. Prices on hens and springs 1c higher than last week but on ducks and geese 1c lower. Live—Springs 17½@18c; hens 17@18c; turkeys 18@19c; geese 15@16c; ducks 17@18c.

Chicago.—Market firm and without change; cold weather has checked both receipts and demand. Quotations on live are: Turkeys, good weight 17c; others 12c; fowls, choice 16c; spring chickens 12@16c, according to quality; geese 10@14c, according to quality; ducks 15@16c.

## FRUITS AND VEGETABLES.

**Apples.**—Market firm with prices unchanged. No. 1, \$4.65@5.50; No. 2, \$2.50@3.50 per bbl. At Chicago the market has a firm, healthy feeling. Holders are well satisfied with the demand and prices obtained. Mostly local storage stock on sale. Prices are advancing. Country picked ranges from \$3.50@7 per bu; No. 1 Jonathans are selling for \$6@7; Spies are \$5.50@7; Baldwins are \$5.50@5.75.

**Potatoes.**—On account of the cold weather trade is very light. Prices are unchanged. Quotations: In bulk 58@62c per bu; in sacks 64@65c per bu for carlots. At Chicago the market has a better tone than last week. The prices are slightly higher. Good Michigan white stock is quoted at 65@68c per bu. The bad traffic conditions has kept Michigan potatoes out of eastern markets. When weather lets up the demand will be active. In New York Maine potatoes are given preference over those from Michigan.

**Onions.**—The local market is steady with prices unchanged. Quoted at \$3@3.25 per sack for yellow and \$1.60 per crate for Spanish. At Chicago trade in domestic stock is good with prices about 25c higher. Sacks 65@70 lbs. Michigan-grown, sell at \$1.75.

**Cabbage.**—Steady with prices unchanged. Good quality is quoted at \$2.50@2.75 per bbl. At Chicago the cold weather cut active trading. A good supply of new cabbage is causing neglect of old. Prices are unchanged. Holland \$1.75@1.80 per bbl.

## GRAND RAPIDS.

The poultry market opens firm and higher this week, fowls being quoted at 14@14½c. Eggs are worth 24c and dairy butter is weak at 22c. The potato market has been doing a little better and indications point to a free movement when the weather moderates a little. Beans are steady at \$1.60@1.65. Hay on the city market ranges from \$15@19 and straw sells at \$9@11. The mills are paying the following prices for grain: Wheat 93c; oats 39c; corn 65c; rye 58c. Dressed hogs are worth around 10½c.

## LIVE STOCK MARKETS.

### Buffalo.

February 23, 1914. (Special Report of Dunning & Stevens, New York Central Stock Yards, East Buffalo, N. Y.) Receipts of stock here today as follows: Cattle 227 cars; hogs 1000

double decks; sheep and lambs 100 double decks; calves 800 head.

With 227 cars of cattle on our market here today, the steer cattle of medium weights from 900 to 1150 lbs., sold generally from 15@25c per cwt. below last Monday's prices. The heavier end, weighing from 1350 and up, sold for about 10@15c per cwt. below last Monday's prices, and cattle weighing from 1200 to 1300 sold generally 15@25c below last Monday. The fat cows and heifers sold about steady with last Monday, and that class of butcher cattle was readily taken early in the day. The market closed dull with a few left over unsold.

We had close to 100 double decks of hogs today and with just a moderate demand trade was about steady on better weight hogs, while pigs and lights were extremely dull and lower. A few good weights sold at \$9.45@9.20, with the bulk of the sales around \$9.25. A few handy weight yorkers sold at \$9.30; pigs \$9@9.25; roughs \$8@8.50; stags \$6.50@7.50. A good many hogs arrived late and fully 20 double decks are going over unsold.

The market was active today on heavy lambs and sheep, but dull on heavy lambs. Prices 15c lower than the close of last week. Choice handy lambs selling mostly at \$8.15@8.25. Heavy lambs selling from \$7.50@7.75. We look for slow trade on heavy lambs all the season. Most of the orders calling for lambs weighing from 75 to 83 lbs. Look for steady to shade higher prices on lambs last of week.

We quote: Choice lambs \$8.15@8.25; heavy do \$7.50@7.75; cull to fair do \$6@8; yearlings \$6.50@7.25; bucks \$3.50@4.25; handy ewes \$5.65@5.85; heavy do \$5.25@5.50; wethers \$6.25@6.50; cull sheep \$4@5; veals choice to extra \$12@12.50; fair to good, \$10.50@11.50; heavy calves \$5.50@8.

### Chicago.

February 23, 1914.

Cattle. Hogs. Sheep. Received today...22,000 43,000 31,000 Same day 1913...20,907 41,580 22,104 Last week...52,177 149,261 124,375 Same wk 1913...49,510 157,336 83,899

Trains are getting in late today on account of the snow drifts, and very little business was transacted early, but prices showed an upward tendency all around, hogs opening 5c higher, with sales at \$8.45@8.80. Later the market was weaker, however, buyers holding off. Hogs received last week averaged 224 lbs. Cattle open strong and largely a dime higher. Lambs and sheep looked 10c higher, with not much done early, although prime lambs brought \$8 and prime ewes \$6.

Cattle moved down and up last week, with later recovery on smaller offerings from reduced values early on too generous supplies. The better class remained firm throughout the week, with only moderate receipts and a strong local and shipping demand, and the top price stood 10c above any previous sale of the winter. In fact, choice beefs sold the highest ever known in February, heavy steers of this class going at \$9@9.65, with steers selling largely at \$7.70@9 and the commoner lots of light-weight, short-fed steers at \$7@7.95. Medium grades sold at \$8 and over and good steers at \$8.50 and upwards, with sales of good to prime yearlings at \$8.40@9.35. The most unsatisfactory feature of the market was the increasing proportion of 60 to 90 days' fed stock, more cattle going below the \$8 line than at any time previously for months past. Butchering cows and heifers had a good outlet at \$4.85@8, with scattering sales of a few head of prime yearling heifers at \$8.25@9, while canners went at \$3.25@4.30, cutters at \$4.35@4.80 and bulls at \$5.40@7.75. There was a good demand for stockers and feeders, but advancing prices for the better class of these cattle had a tendency to lessen transactions to a considerable extent. The lighter weights were generally preferred by country buyers, these bringing \$5.75@7.75, while feeders carrying much weight found buyers at \$7@8. The sales of stock and feeding cows and heifers made a fair showing at \$5@7, while stock calves of heavy weight and good quality sold readily at \$7.50@8.25. There was a large demand for calves, and the desirable class of light-weight vealers sold briskly at \$10@11 per 100 lbs., with sales all the way down to \$5@8 for the coarse to good heavy lots. Milkers and springers had a light demand at \$55@85 per head, most of the common cows going for beef, as usual.

Hogs were in the customary large demand for eastern shipment last week, and local requirements continued large, although the big packers were disposed at times to hold back for lower prices. While country shippers resented this by checking their shipments of hogs, supplies accumulated in the pens on some days and aided in the downward movement of prices. The hogs received averaged extremely well in quality and sold

chiefly within a narrow range of prices, with prime light hogs selling close to prime heavy weights, because of the increased average weights of the receipts as compared with earlier in the season. This is the time of the year to expect hogs to be marketed heavier in weight, the average weight having been 228 lbs., one year ago, 216 lbs. two years ago and 232 lbs. three years ago. Dealers in hogs were taken by surprise several days ago when it was announced that the federal government had instituted a new inspection system here, by which all hogs suspected of being diseased are placed in quarantine pens, every hog showing a temperature of 106 degrees F. or over being condemned after tests are made. Not many sick hogs are marketed now, however, and few lots are condemned. Provisions and fresh pork continue in large demand. Prices closed Saturday at \$8.35@8.75 for inferior to prime hogs, with prime light hogs going at \$8.70, pigs at \$7.50@8.65 and stags at \$8.95@9.20. At the high time recently prime hogs brought \$8.90.

Sheep and lambs have experienced some advances in prices recently on a better local and shipping demand for fat lots of the right weights, the shipping demand being the greater source of strength, as usual. The advance was general and embraced ewes, wethers, handy little yearlings and lambs, while prime western feeding lambs sold extremely high. Receipts ran largely to fed westerns, Colorado-fed lambs and Montana hay-fed lambs and sheep. Fed westerns came in largely from Iowa, Minnesota and Illinois. The week closed with lambs selling at \$7.25@7.90, culls going at \$6@7.20, and feeders at \$6.50@7.35, while yearlings brought \$6.35@7.25, the top for heavy lots being \$6.90. Wethers brought \$5.65@6.25, ewes \$4@6.15 and bucks \$4@5. Lambs averaged a little higher than a week earlier and sheep and yearlings 15@25c higher.

Horses closed in such good shape the previous week that country shippers felt elated and sent in too large numbers for several days last week. Unfortunately, the eastern snow blockade spoiled the shipping demand, so far as the east was concerned, and trade was slow, many horses selling at reductions of \$5@15 per head. Few prime animals were received, and heavy drafters of choice grade were about nominal at \$275@300, lighter weights going usually at \$225@265, while farm geldings sold mainly at \$350@400 per pair and farm mares at \$375@450 per pair. A poor outlet was afforded for drivers at \$100@250 per head, and inferior old horses were hard to sell at \$50@75.

## CROP AND MARKET NOTES.

(Continued from page 247).  
ture dropped to 10 below zero. There is no snow and the roads are very good. But little stock or grain is being marketed. Stock of all kinds is doing well. Wheat seems all right as yet, but farmers are doubtful of the effect of the cold weather with little snow to cover the ground. Taxes are increasing and returns from farms are decreasing, which causes some earnest discussions among farmers. Wheat 77c; corn 58c; oats 40c; hogs \$7.75; hay \$7@12; poultry 12c; butter 25c; eggs 25c.

**Knox Co.**—We have been having cold weather, about 20 below zero, with two inches of snow. Wheat and rye are doing ne. There are some drifts on the hill roads, but bottom roads are in fine shape. There are quite a number of sales, everything selling at good prices. Most of the farmers have their grain and stock marketed. Some corn being sold. Hog cholera is now a thing of the past here. Hogs \$7.50; corn, shelled 50c; wheat 70c; oats 31c; butter 20c; eggs 21c; cream 27c.

**Colorado.**  
**South Weld Co.**—Lots of snow on the ground since December 1, something unusual for this section. The wheat and rye look good, also the soil for spring work. All reservoirs are filled with water, and there is plenty of snow in the mountains. Everything looks favorable for the year. The main traveled roads are good. A few farmers have fat cattle to sell; price \$6.75 for best; good milch cows \$125@150. The farmers of the Farmers' Union, which is very strong here, are refusing to sign beet contracts, as the sugar company have cut the price on beets. Farmers are delivering milk to condensary and cheese factories. Butter-fat is 40c; butter 30c; lots of eggs at 25c.

### Washington.

**Klickitat Co.**—We have had a pleasant winter, and the farmers are looking forward to a good strawberry season, as the prospects are good. The hills are beginning to look green, and if this weather continues, stock will soon begin to get their feed on the hills. Chickens 20c, dressed; butter 35c; eggs 30c; potatoes 60c.  
(Continued on page 249).



## THIS IS THE FIRST EDITION.

## DETROIT LIVE STOCK MARKETS.

## Thursday's Market.

February 19, 1914.

## Cattle.

Receipts, 1183. Market steady on all grades.

We quote: Best steers and heifers, \$8; steers and heifers, 1000 to 1200, \$7.50@8; do 800 to 1000, \$7@7.50; do that are fat, 700 to 900, \$6.75@7.25; do 500 to 700, \$6.25@6.75; choice fat cows, \$6.25@6.50; good do, \$5.75@6; common do, \$4.75@5.25; canners, \$3.50@4.25; choice heavy bulls, \$7@7.25; fair to good bolognas, bulls, \$6.50@6.75; stock bulls, \$5.50@6.25; choice feeding steers, 800 to 1000, \$6.75@7; fair do, \$6.25@6.75; choice stockers, 500 to 700, \$6.50@6.75; fair do, \$6@6.25; stock heifers, \$6@6.50; milkers, large, young, medium age, \$70@80; common milkers, \$40@50.

Haley & M. sold Kamman B. Co. 7 cows and heifers av 1013 at \$6.30, 1 do wgh 1130 at \$5; to Rasmick 3 cows av 960 at \$5, 3 do av 920 at \$4.50; to Sullivan P. Co. 2 do av 1235 at \$6, 7 do av 937 at \$5.35, 4 do av 1172 at \$6, 2 heifers av 780 at \$7.10, 1 steer wgh 1090 at \$7.60, 2 cows av 1000 at \$6, 1 bull wgh 1600 at \$7, 1 do wgh 1210 at \$6.75; to Bresnahan 3 cows av 937 at \$4.75; to Mason B. Co. 1 do wgh 1000 at \$5.25, 24 butchers av 843 at \$7.15; to Newton B. Co. 11 steers av 921 at \$7.55; Mason B. Co. 4 cows av 1025 at \$6; to Ratkowsky 2 cows av 1000 at \$6; to Sullivan P. Co. 12 steers av 890 at \$7.40, 10 do av 895 at \$7.55; to Kull 4 butchers av 807 at \$6.75; to Mason B. Co. 2 cows av 900 at \$5.50; to Kamman B. Co. 5 steers av 910 at \$7.75, 9 do av 902 at \$7.40; to Sullivan P. Co. 10 do av 764 at \$7.50, 3 bulls av 1220 at \$6.50, 18 steers av 1005 at \$7.30; to Goose 2 cows av 735 at \$4.25.

Bishop, B. & H. sold Gerisch 18 steers av 1005 at \$7.50, 2 bulls av 1040 at \$7; to Newton B. Co. 16 steers av 1076 at \$7.70, 3 cows av 1077 at \$6, 1 do wgh 900 at \$5, 1 do wgh 950 at \$5.50, 7 butchers av 661 at \$6, 13 steers av 815 at \$7.55; to Sullivan P. Co. 1 bull wgh 1600 at \$7.25, 1 do wgh 1020 at \$6.25, 6 steers av 770 at \$6.85; to Thompson Bros. 9 butchers av 931 at \$6; to Mich. B. Co. 5 cows av 1064 at \$5; to Parker, W. & Co. 5 do av 1146 at \$6.25, 31 heifers av 664 at \$6.50, 9 butchers av 773 at \$6.75, 4 cows av 962 at \$4.65, 1 bull wgh 1530 at \$7, 5 cows av 1052 at \$5.85, 3 do av 777 at \$4.25, 2 heifers av 580 at \$6.25; to Ratner 3 cows av 8997 at \$5.50, 2 heifers av 625 at \$6; to Kull 2 cows av 660 at \$5.25; to Kamman, B. Co. 11 steers av 768 at \$7.35, 3 do av 1013 at \$8; to Hammond, S. & Co. 1 bull wgh 1460 at \$7, 2 cows av 950 at \$6.50, 5 butchers av 728 at \$6.90; to Parker, W. & Co. 3 bulls av 947 at \$6.50; to Sullivan P. Co. 20 steers av 1012 at \$7.40; to Ratkowsky 3 cows av 957 at \$5.50, 1 do wgh 1410 at \$6.50, 1 bull wgh 1270 at \$7; to Hammond, S. & Co. 3 steers av 950 at \$7.25, 2 do av 870 at \$7.40, 7 do av 750 at \$6.75, 2 do av 1150 at \$8, 19 do av 850 at \$7.50, 1 bull wgh 1180 at \$6.75.

## Veal Calves.

Receipts 430. Market strong for good; common dull. Best, \$11@12; others, \$6@10.50.

Haley & M. sold Nagle P. Co. 2 av 130 at \$11, 7 av 160 at \$11.75, 2 av 160 at \$11.50, 2 av 120 at \$11; to Burnstine 5 av 160 at \$11.75; to Ratner 3 av 220 at \$8; to Mich. B. Co. 2 av 145 at \$10, 10 av 147 at \$10.50, 9 av 150 at \$11.75, 1 wgh 250 at \$9.

## Sheep and Lambs.

Receipts, 4386. Market steady. Best lambs, \$7.75@7.85; fair to good lambs, \$7.40@7.65; light to common lambs, \$6.50@7; yearlings, \$7@7.15; fair to good sheep, \$5.50@5.75; culs and common, \$4@5.

Haley & M. sold Mich. B. Co. 18 sheep av 115 at \$5, 3 do av 135 at \$4, 52 lambs av 83 at \$7.75, 96 do av 90 at \$7.60; to Breitenbeck 66 do av 65 at \$7.25; to Nagle P. Co. 19 sheep av 100 at \$5.50, 11 do av 115 at \$5.25, 16 lambs av 80 at \$7.25.

Roe Com. Co. sold Mich. B. Co. 85 lambs av 65 at \$7.40, 6 sheep av 100 at \$5.

Spicer & R. sold Nagle P. Co. 67 lambs av 75 at \$7.65, 42 do av 85 at \$7.65, 21 clip lambs av 90 at \$6.75; to Thompson Bros. 13 sheep av 85 at \$5; to Young 32 lambs av 65 at \$7.25; to Parker, W. & Co. 21 sheep av 95 at \$5.25.

McQuillan sold Sullivan P. Co. 98 lambs av 70 at \$7.50, 11 do av 45 at \$6.50, 27 sheep av 95 at \$4.75.

Stier sold same 11 sheep av 110 at \$5.50, 7 lambs av 88 at \$7.50.

Smith sold same 11 lambs av 81 at \$7.75.

Sharp sold Mich. B. Co. 33 sheep av 115 at \$5.25, 139 lambs av 88 at \$7.85.

## Hogs.

Receipts, 2894. All grades \$8.75.

Bishop, B. & H. sold Parker, W. & Co. 1476 av 200 at \$8.75.

Roe Com. Co. sold Sullivan P. Co. 150 av 170 at \$8.80.

Spicer & R. sold Hammond, S. & Co. 200 av \$8.75.

Haley & M. sold same 165 av 200 at \$8.75.

## Friday's Market.

February 20, 1914.

## Cattle.

Receipts this week, 1511; last week 1844; canners and bulls steady; all others 10@15c lower. Best steers and heifers, \$7.80@7.90; good steers, 1000 to 1200, \$7.50@7.80; steers and heifers, 800 to 1000, \$7@7.35; do that are fat, 700 to 900, \$6.75@7.25; do 500 to 700, \$6.25@6.75; choice fat cows \$6.25@6.50; good do, \$5.75@6; common do \$4.75@5.25; canners, \$3.50@4.25; choice heavy bulls, \$7@7.25; fair to good bologna bulls, \$6.50@6.75; stock bulls, \$5.50@6.25; choice feeding steers, 800 to 1000, \$6.75@7; fair do, \$6.25@6.75; choice stockers, 500 to 700, \$6.50@6.75; fair do, \$6@6.25; stock heifers, \$6@6.50; milkers, large young, medium age, \$70@80; common do, \$40@55.

## Veal Calves.

Receipts this week, 611; last week, 571; market steady. Best, \$11@12; others, \$8@10.50.

## Sheep and Lambs.

Receipts this week, 5759; last week 7065; market steady. Best lambs, \$7.75; fair to good do, \$7.40@7.65; light to common lambs, \$6.50@7; yearlings, \$7@7.15; fair to good sheep \$5.50@5.75; culs and common, \$4@5.

## Hogs.

Receipts this week, 3993; last week 4925; market 5c lower than on Thursday; all grades \$8.70.

## CROP AND MARKET NOTES.

(Continued from page 248).

## Missouri.

McDonald Co.—The weather is very changeable, freezing and thawing. The wheat looks fairly good, but the freezing without snow covering it is somewhat hard on it. We have had only about 12 inches of snow this winter. There was practically no rye sown last fall. Many farmers are in need of feed, and there is but little feed on the market. Fodder is selling at 12c a shock; straw 20c per bale; hay 40c per bale; hogs 7½¢ per lb; wheat 90c.

Barton Co.—The weather continues fine. The thermometer registered zero only once. Wheat prospects are better than for years, and there was a large acreage sown. Spring plowing is almost all done. There is very little marketing done by farmers. Hogs 8c; beef cattle 6½¢; hens 10c; eggs 24c; cream 23c; corn 60c; wheat 85c. Wheat is not as high as it was early in the winter on account of the open winter and the wheat pasture.

Lafayette Co.—We are having real winter weather with about six inches of snow. Roads are in fair condition. Farmers are selling hogs and cattle. Most of the farmers of this section expect a good bunch of spring pigs. The wheat is very good and covered with snow. Some clover has been sown broadcast on the wheat. Hogs are selling at \$8 and cattle at \$7 per cwt. The creamery paid 33c for butter during January; eggs 23c.

Vernon Co.—We have about 14 inches of snow. Some cattle run on wheat all winter without any other feed and have done well. There is some sickness among stock which has been fed immature feed. Farmers will begin to sow oats in about two weeks if the weather is favorable, as all are anxious to make preparations for an early crop.

## South Dakota.

Meade Co.—It has been a fine winter up to February, but now it is cold and blustery, with about two inches of snow. The ice harvest is in progress. Roads are in fine shape. Stock is looking good, and everyone seems to have plenty of hay. There is a great deal of good wheat and oats and alfalfa seed not yet sold. Wheat 65c; oats \$1.25 per cwt; flax \$1.25 per bu; butter-fat 32c per lb.

## Nebraska.

Scotts Bluff Co.—Have had some real winter weather lately, the lowest temperature being 30 below zero, but a Chinook wind sprang up and warmed it up. The sheep feeders are beginning to move their stock, shipping to Omaha. Some hogs are being shipped to Denver, as that is closer and is a good hog market, at about \$8.35. There is no grain for sale. Corn is being shipped in at \$1.30 per cwt. The sugar factory has let contracts for 18,000 acres of sugar beets at \$4.50 per ton, 50c under last year's price. There is very little winter wheat or rye.

Perry Co.—We are having cold weather. Farmers are selling some fat hogs at 11c; cloverseed \$6 per bu; eggs 25c; cows \$40@125. There are some buyers here after cheap horses. Good horses and mules are being firmly held for better prices. There are very few hogs on farms. The early lambs are growing nicely, and stock of all kinds is doing well.

## Pennsylvania.

Montgomery Co.—The weather is cold. The farmers have been harvesting ice, which is about seven inches thick. The roads have been bad, but are now improved. There is not much grain or stock in the farmers' hands.

Hens have begun to lay some, which brings eggs down in price; eggs 34c; chickens 17c; veal \$10.50; hogs, \$11, dressed; potatoes 95c; choice timothy hay 75c per cwt; straw 60c per cwt. Prices of feed which farmers have to buy; Bran \$28; gluten feed \$31; oil meal \$33; dried beet pulp \$27; yellow corn bran \$26; cottonseed meal \$34 per ton; corn 78c per bushel.

Erie Co.—Roads are good for the time of year. The farmers have marketed about all of their hay and stock, and haven't much to sell. Cows are very scarce, and prices are \$75 @100.

Trego Co.—We have had cold weather since Christmas, with about six inches of continuous sleighing, and snow two feet deep. The weather is favorable for the wheat, rye and meadows. Dairy cows are in good condition, and farmers have plenty of feed on hand. A great amount of timber has been cut this winter for farm use. Several logging camps have been running in full force, and many farmers profited by working in these camps with their teams. Hens have not been laying well. Hay is retailing at \$15; veal calves 11c. There are very few beef cattle raised here, as farmers find veal calves so profitable. Butter-fat 47c; eggs 32c; fat cattle \$6 and scarce. More hogs fattened than usual. There have been quite a number of auction sales recently, horses and new milch cows sell high.

## LIVE STOCK NEWS.

Fresh pork products have advanced recently along with hogs, and so have provisions, recent sales of pork on the Chicago Board of Trade having been made about \$3.30 per barrel higher than a year ago, with similar advances shown in lard and other lines.

Texas cattlemen have been traveling through the south in search of suitable cattle for feeding on cottonseed meal. The demand is doubtless stimulated by knowledge that because of the drought last year in parts of Kansas, Oklahoma, Missouri and other portions of the southwest, little cattle feeding is being carried on thereabouts.

Improving conditions in the hog market have started a good demand for stock hogs in western markets, and offerings are too small to go around.

The marketing of Colorado lambs at Chicago and Missouri River points is now proceeding and will increase from week to week. Around 700,000 lambs are reported as being fattened in northern Colorado.

The wool trade looks more promising, and a better demand and higher prices than last year are looked for generally. Secretary McClure, of the National Wool Growers' Association, writes from Salt Lake City that wool is being contracted already quite freely on the sheep's backs in Idaho and Utah at prices about half a cent per pound higher than a year ago.

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**DRESSED HOGS** These are our specialties just now. Our 25 years' experience has taught us how to sell them for you to best advantage. Our reputation for honest dealing and quick returns is assured by our record.

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**Susquehanna River Farm**—Stock and tools in 12-room house, painted, green blinds, 50 acres fine R.D. Also 100 a. 60 cleared, fenced, stumps, good buildings, school near by, in the heart of the resort region. Price about the same as for wild land. Terms. O. J. SEVERANCE, Levering, Emmet Co., Mich.

**FOR SALE**—40 acre farm 1½ miles out on stone road, good house, small barn, about 15 acres muck soil, good drainage, balance dry land some bearing fruit. This is a splendid chance for a truck farm at \$1500. Good terms offered. Write or call on J. M. McFARREN, Rapid City, Michigan.

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It must drop at every hill the number of kernels you set the thumb-screw regulator for. Balances in either hand.

**ACME Planters**

are light but sturdy and long-lived labor savers. The Acme Compressed Air Sprayer has its pump outside, where it cannot rust. Ask your dealer to show you. If he can't, write for free book, "The Acme of Potato Profit," and name of nearby dealer who can, as 12,000 farmers did last year.

POTATO IMPLEMENT CO.  
311 Front St., Traverse City, Mich.

**ACME ROTARY CORN PLANTER \$1.75**

**GOOD SEEDS**

**BEST IN THE WORLD**

Prices Below All Others

I will give you a lot of new sorts free with every order I fill. Buy and test. Return if not O. K.—money refunded.

**Big Catalog FREE**

Over 700 illustrations of vegetables and flowers. Send yours and your neighbors' addresses.

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**MILLIONS of TREES**

PLANTS, VINES, ROSES, ETC.

The oldest, largest and most complete nursery in Michigan. Send for Catalog. Prices reasonable.

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The Monroe Nursery

962 Front St., East MONROE, MICH.

## Look! Read and Save Money

We have a big stock of Apple, Peach, Pear, Cherry, & Plum trees, at 30¢ up. Shade trees. Berry plants. Roses, Shrubs, Etc. Seed Corn, Potatoes & Oats. We were formerly at Moscow, but have better facilities now to serve our Patrons, send for Catalogue

**ERNST NURSERIES, Box 2, Eaton, Ohio.**

A big lot of the best **APPLE** and **PEACH** ever grown, at special prices. All kinds Trees, Plants, Vines, Roses, Shrubs, etc. Catalogue all about them **FREE**. **BARNES' NURSERIES**, College Hill, Cincinnati, Ohio. **RELIABLE SALESMEN WANTED.**

**SEEDS** Get our catalog, new system, sold by actual weight. 2 or 3 times more seeds for same money. **W. A. ALLEN & SON, Geneva, Ohio.**

**PURE FIELD SEEDS.** Clover, Timothy, Alsike, Alfalfa and all kinds of Pure Field Seeds direct from producer to consumer. Free from noxious weeds. Ask for samples. **A. C. HOYT & CO., FOSTORIA, OHIO.**

**SWEET CLOVER** SEED, pure white and biennial yellow. Prices and circular how to grow it sent on request. Everett Barton, Box 128, Falmouth, Ky.

**SEED POTATOES** Choice Northern Grown CATALOGUE SENT ON REQUEST.

**NORTHERN SEED COMPANY**

Box 28 :: Grand Rapids, Michigan

**MEDIUM RED CLOVER SEED** Exceptionally choice—pure, plump, clean, high test germination—\$9.50 per bushel. **DADMAN BROS. Whitewater, Wisconsin.**

**Strawberry Plants** Guaranteed as good as grows at \$1.00 per 1000 and up. Catalogue **FREE**. **ALLEN BROTHERS, R. 9, Paw Paw, Mich.**

**STRAWBERRY PLANTS** 1000 FOR \$1—Quality guaranteed the equal of any plants. All kinds and everbearers listed. Also trees, raspberries, blackberries, shrubs, asparagus, tomato and cabbage plants. Catalog free. **ALLEGAN NURSERY, Allegan, Michigan.**

**Strawberry Plants**—\$1.65 per 1000, a most valuable illustrated catalog free. **MAYER'S PLANT NURSERY, Merrill, Mich.**

**PEACH TREES, Orchard Size, 4 & 5c each** Elberta, etc. New catalog free of all kinds of nursery stock. **W. A. ALLEN & SONS, Geneva, Ohio.**

**WEEDLESS SWEET CLOVER** The White biennial. Also Alfalfa, Red, Timothy, etc. Sample and booklet telling "How to Know Good SEED" **FREE**. O. M. Scott & Son, 186 Main St., Marysville, O.

**FRUIT Healthy, Hardy TREES** are necessary to start a paying orchard. We furnish them true-to-name, direct from nursery to planter, at wholesale prices. Ask for Free Catalog. **Celery City Nurseries, Box 12 Kalamazoo, Mich.**

**ROKLEY'S FRUIT PLANTS** Michigan's best, hardy, well rooted stock from old established growers. All varieties of Strawberries, Blackberries, Currants, etc. Also the great everbearing Strawberry. Moderate prices. **WRITE FOR CATALOGUE**

**J. N. ROKLEY'S NURSERIES, R6, Bridgman, Mich.**

**WHOLESALE PRICES** on Strawberry Plants. Many other varieties and garden roots at reasonable prices. Catalogue **FREE**. **A. A. WESTON & COMPANY, BRIDGMAN, MICHIGAN**

# Horticulture.

## A Success in Grape Growing.

If you ever get into Grand Rapids and are interested in fruit you will undoubtedly hear of Munson's vineyard, or Vinceroft, as it is called, before you are there very long. Or you might see long, double-decked wagons labeled Vinceroft delivering well-filled baskets of fine looking grapes to the stores along the main streets of Grand Rapids if you were out and around in the morning.

Vinceroft, operated by Wm. K. Munson, and his son J. Pomeroy, is just outside of the city limits of the furniture town. It consists of about 55 acres, of which about 30 are in grapes. The remaining land is taken up by gooseberries, currants, plums and cherries. The land is rolling and is well adapted to grapes. The elder Mr. Munson was one of the first to set a vineyard in the vicinity of Grand Rapids and, like a great many who are first in doing the things his action was not thought to be a plausible one. But also like many who have original foresight in things he has made a success of it.

The Munsons grow quite a few varieties of grapes and have tested about every variety of value and their conclusions are that the Worden pays hem the best, as this variety comes on the market when prices are high.

for cheaper products, but will end in buying Vinceroft grapes at the original price. Mr. Munson knows the value of his product and under no consideration will he cut the price which his fair judgment places the value of his products at. One reason why he can command a price is because each package of fruit which leaves their place is guaranteed.

Most all of their sales are made to retail grocers in Grand Rapids and some of the larger cities in the northern part of the state. They have worked up a trade which they supply each year. About once a week they send postal cards to grocers outside of Grand Rapids, stating what they have to sell and the prices. The orders they fill for these are sent both by express and freight but most generally by express. They keep record of their dealings with each grocer, they are dropped from the list. On account of this precaution they have had very few bad accounts. Their experience with the various markets show them that there is a great difference in the markets. In one town the grocers will be able to dispose of quite a large amount of grapes but in another of equal size anything but small shipments gluts the market. Their favorite package for ship-



Packing Grapes in Munson's Vineyard.

The Concord is next in importance, then the Niagara and the Moore's Early. The King, a variety which Mr. Munson originated himself, is also one of their favorites. This variety was found in a Concord vineyard and is much larger in size than that variety. It has received recognition by this country's fruit authorities as a worthy variety and one year received the medal from the American Pomological Society.

Vinceroft's success is not due to favorable natural conditions alone, for there are other vineyards which are as well located but are not doing as well. It is due to the sound business management that it gets which has made it what it is. It is run as systematically as a factory. During the busy season the senior Mr. Munson has charge of the producing department and Pomeroy is the sales manager.

### Selling Methods.

Their method of selling is unique and well organized. Early in the morning Munson, Jr., is on the public market in Grand Rapids with a couple of wagon loads of grapes. He is there more to take orders from grocers for the day than to sell the products right on the market. However, what he does sell is sold at a price higher than that from the surrounding farmers' wagons. Often buyers will ask the price and then go to look

ment is the pony, or four-pound basket. These are put in crates the Munsons had especially made which hold 12 baskets. No covers are used but upper six baskets in the crate are put on a division board which rests on the handles of the lower baskets. In these crates the baskets reach the grocer well filled and with the fruit in excellent condition. The fruit is generally shipped at about three o'clock in the afternoon and is at its destination in the morning.

Every package they ship has the name Vinceroft on it and is guaranteed to be the same from top to bottom. This has done much to enable them to establish the markets they have. Vinceroft's business has been established on the idea that if you gain the confidence of those you deal with and then hold it with honest business your business becomes an established one.

Of course, with such good business goes good care of fruit. The senior Mr. Munson's early training in nursery work made him a strong advocate of thorough cultivation, and early and intense cultivation they consider as an important factor in their success in fruit-growing. About the first of August all of their fruit plantations are given their last cultivation and a cover crop of oats or crimson clover is sown. This serves to check the excessive growth of wood, tends

## William P. Stark

### Trees at Growers' Prices



**Save 30% to 50% And Get Better Trees**

Our catalog is our only salesman. We employ no agents, no representatives. We sell to you direct by mail from our Stark City, Missouri, nurseries, and furnish you exactly what you order—personally selected, healthy, productive trees, with famous William P. Stark quality. Get the catalog. Prices in plain figures. Note the big saving.

### J. H. Hale Peach—Delicious Apple

Two great fruits, J. H. Hale Peach, 1/4 to 1/2 larger than Elberta, rich yellow color tinged with carmine, solid flesh, practically fuzzless skin; best shipping peach known; fruit brings double Elberta prices. We have exclusive contract and control. Propagated directly from Mr. Hale's bearing orchards. Delicious—the World's Quality Apple—always tops markets; selected 1 and 2-year-old trees.

**Small Orders by Parcel Post** Special system of packing. We pay postage. Strong, vigorous, productive trees and plants by return mail on receipt of order.

**Send for 1914 Catalog** Lowest prices on all choicest apple, peach, pear, plum, cherry, apricot, quince trees; grapes, currants, gooseberries, raspberries, blackberries, roses, ornamental and shade trees. Practical handbook; all prices in plain figures. Sent by return mail if you write today.

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**SPRAYERS** Are a Necessity and a Benefit. They save your crop, increase the yield and improve the quality. Our Spray Calendar shows when to spray and what materials to use. Our "Spray" booklet shows 70 combinations of

**IRON AGE**

Bucket, Barrel, Power and Traction Sprayers for orchard and field crops and other uses. Built complete or in units—buy just what you need. Ask your dealer to show them and let Uncle Sam bring you the rest of the story and the spray calendar. Also "Iron Age Farm and Garden News" free.

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## Kill These Pests

If you allow them to ruin your fruit trees, plants and vines, it is your own fault as they are easily killed by spraying.

### Stahl's Excelsior Spraying Outfits

make the work easy and the results sure. Endorsed by successful growers. Shipped for 10 days trial upon receipt of \$3. Your money refunded if not O. K. Write today for particulars and Treatise on Orchard Enemies (mailed free).

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**Spray**

The Morrill & Morley Way

The ECLIPSE Spray Pump has been in service 20 years. Durable, efficient, economical. The U. S. Department of Agriculture uses it, and you can make it profitable in your orchard, vineyard or potato field. Catalog sent free, on request.

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**Eclipse Spray Pump**

## DOUBLE SPRAYING RESULTS

by saving half the solution and labor with the "Kant-Klog" Sprayer

Nine different sprays from same nozzle—round or flat—coarse or fine—starts and stops instantly. Ten different styles. Mail postal for special offer. Agents wanted.

**Rochester Spray Pump Co.**  
189 Broadway, Rochester, N. Y.



## Fraser Uses Modern Methods In Growing His Fruit Trees

These methods give vigorous roots, sturdy growth, healthy bark. My trees are free from scale and other diseases. Get my Book About Trees—it tells about Apples, Peaches, Plums, Cherries; how to prune, spray and care for the fruit. Send now for a free copy.

**SAMUEL FRASER, 52 Main Street, Geneseo, N. Y.**

## Apple Trees 5¢

Peach 7c, Cherry 14c, all grafted. Concord Grapes \$2 per 100. Catalog Specimen Seedlings, 3c to 24 inches, \$4.50 per 1,000. We pay freight on \$10 tree orders. All kinds of trees, shrubs, etc., flower, vegetable and field seeds. 10 big pkgs. vegetable seeds, early varieties, 25c. Catalog free.

**GERMAN NURSERIES AND SEED HOUSE**  
29 Court Street Beatrice, Neb.



to production of fruit buds for the next season, and with the leaves which drop serves as a good winter mulch for the ground.

The plowing is done as shallow as possible, probably about two or three inches. With the subsequent cultivation as much as possible is done with horse work and with experienced men and horses but little hand cultivation is needed.

#### Spraying.

Thoroughness and timeliness are the two factors they deem important in spraying. In the grape spraying one lead of hose is about 15 feet long and the other about 30. The usual grape spraying attachments are not used as they believe that better work can be done when the spray rod is in the hands of a good man. With the hose at the lengths mentioned above, two men can work well without interference. If the wind is light one man sprays all of one row if early in the season, or just one side of a row later when the foliage is heavier. With a strong wind the two men spray on the same row, one taking care of the top growths and the other the lower parts of the vines. Bordeaux mixture, the 4:6:50 formula, with arsenate of lead is the spray used.

Last year the black rot which was very bad in all grape districts, made its appearance in their vineyards. As it was too late to spray with Bordeaux mixture without danger of staining the fruit, they used the Burgundy mixture. Besides this, just before spraying they sent their men through the vineyard to pick off all the rotten grapes they could find. This got rid of a source of infection and with the Burgundy mixture they very satisfactorily controlled this serious grape disease. The Burgundy mixture is made as follows: Copper sulphate, 2 lbs; sal soda, 3 lbs; 100 gallons of water. This they found a very easy mixture to prepare and it did not stain the fruit. It costs but little and is very effective.

A good pruning is given each tree, vine and bush each year. On the grapes the arm renewal system is used. The grape pruning is usually done quite early in the season, often being finished during the month of January.

#### Methods of Picking and Packing.

Vinecroft is very fortunate in the matter of getting help. Being close to the city they can get people at short notice. During the picking season for small fruits and grapes they hire a great many Hollander women, several of the women having worked there for years. The small fruit is picked by the case or pound; currants being picked by the case and gooseberries by the pound. The gooseberries are picked in bushel baskets and when full the picker takes the basket to the packing shed where the leaves are blown out by a fan and the berries weighed. The weight is punched on a card the picker has tied on the basket. When the picker brings in a case of currants he also gets credit for it on a card furnished him. At the end of the week the cards are collected and the pickers paid according to the amount recorded on them.

For grapes the picking is paid for by the day as the baskets are packed in the vineyard. Each picker is provided with a stand on which to place the basket when picking, and a pair of scissors for cutting the bunch of grapes from the vine. After the baskets are full they are put in the shade under the vines and later are gathered with horse and wagon. In the packing shed several girls and men are busy during the grape harvest filling orders, which have been recorded in a systematic way as they have been received, and packing the fruit for shipment.

Vinecroft's success shows that being alive to your opportunities and using good judgment and business principles are prime essentials in successful fruit growing.

#### PLAN THE GARDEN NOW.

When the seed catalogs arrive in February I have a gala time reading over the descriptions of the old and tried favorites and the more glowing pictures of the novelties and newer sorts. I think there is quite as much pleasure in the gardening on paper which I indulge when my vegetable beds lie under a foot of snow as in the more back-aching work of the later months. Yet with all the pleasure there is likewise profit and wisdom. It is wise to plan the garden early. It is best to buy the seeds before the busy season comes on.

The first thing to be considered is how much space can be given each kind. I know a man who plans his line and compass. Few of us have the garden rows and all his planting by time or inclination to carry the matter to such a degree of nicety, yet it is well to know about how much seed will be needed. I always look over, in fact study, four or five catalogs each year. These I compare as to prices and stock, but in the end the bulk of my garden seeds are purchased from an old stand-by. The trait has been in the family for years, and everything has been so satisfactory that I have found no reason to change. From others certain new things have been purchased from time to time, and in this way I have kept fully abreast of the times in my gardening. I have found the standard sorts are best for main plantings but this rule is not strictly adhered to. Thus a few years ago I planted a new cucumber almost to the exclusion of the older sorts, pinning my faith entirely upon the catalogs. I am glad to say that my faith was rewarded so abundantly that this variety has since been raised almost exclusively.

#### Buy Good Seed.

Sad to relate, there are seed dealers who are sending out worthless seeds each year, tons of it. These are not the growers. One may feel pretty safe if he selects any of the advertisers in the reliable farm journals and purchases from them. Perhaps he will have to pay more than two cents per packet but in the end he will be well repaid for doing so.

By making the selections early the grand rush of the planting season is avoided. Some of the dealers who allow liberal discounts for early orders. It seems little short of marvelous that so few mistakes are made in the orders, yet it sometimes happens. When it does, if the order has been sent early, there is ample time to make the proper exchange. On the other hand, if the planting season is near, it may be necessary to fill out the plantings with anything obtainable. Doubtless much of the seed sold at the country store is fairly reliable, yet some of it is badly adulterated and not infrequently it has been carried over from a previous season. You are sure not to get this if you order from the catalog of a reliable dealer.

Late in the season, even the largest growers have to fall back upon seed that has not passed the strictest tests. I have received seeds marked to this effect with the statement that their A1 supply was exhausted. The moral is: order early.

New Hamp. C. H. CHESLEY.

One of the most essential factors in successful fruit growing is progressiveness. It pays one in dollars and cents to investigate the latest wrinkles in cultural methods, spray materials and machinery, and the tools and methods of cultivation and pruning. Our best judgment may tell us that some of these new ideas are impractical and would not apply at all to our own cases, but nevertheless we may get some suggestion from them which will be of great help to us. If it does nothing else, our knowledge of these late happenings will show our progressiveness when these subjects are brought up for conversation.

## DEMING Farmers Sprayers

are just the thing for keeping field, vineyard and orchard clean. Powerful enough to do lots of good work quickly and light enough to be moved around easily. Pump is well constructed, with every important part of easy access. The 50-gallon barrel rests on a hardwood platform, which is supported by strong iron wheels.

**Deming Nozzles Stand for Highest Pressure**

The nozzle is the "business end" of every spraying outfit. Deming Nozzles lead because they do the work right. Nine different kinds—all carefully tested—fit any make of spray pump. Use "Deco" Hose for lasting service.

**Spraying Guide FREE**

Tells when and how to spray garden, field, and orchard crops. Catalog shows all styles and kinds of sprayers for every need and purpose. Gladly sent free on request, together with name of nearest Deming Dealer. Ask for both To-Day.

**The Deming Co.**  
416 Depot St., Salem, O.

## Forkner Orchard Cultivator

Does more work with less draft and leaves a better surface mulch than any other cultivator made.

**It Works Right Up To Your Trees**

Cultivating the entire surface beneath low branches without disturbing boughs or fruit. Write for catalogue and free book "Modern Orchard Tillage."

**LIGHT DRAFT HARROW CO., 606 Nevada Street, Marshalltown, Iowa**

60 years before the public eye, adds volumes to our praise, more than anything we might say. Thousands of satisfied customers. Everything of the best for

## Orchard, Vineyard, Lawn, Park, Street, Garden and Greenhouse

Seeds, Bulbs, Plants, Roses, Shrubs, Etc.

Safe arrival and satisfaction guaranteed. Hundreds of carloads of FRUIT AND ORNAMENTAL TREES. If in want of any send for Catalog No. 1, 112 pages. If Seeds, Bulbs, Roses, Palms, Ferns, Geraniums, and Greenhouse Plants in general, Catalog No. 2, 192 pages; both FREE. Immense stock of choice CANNAS—the queen of bedding plants. Acres of Hardy Perennial Plants, which last for years. Direct deal insures you the best and saves you money. 1200 acres. 46 greenhouses.

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## 15 MINUTES TO THE ACRE

That's all it takes. Just 15 minutes to the acre with a SPRAMOTOR, twice, three times, during growing season and you will have good crops in poor years and bumper crops in good ones.

Care for your own crops first then make big money spraying those of your neighbors. One season's work will more than pay for it, save you money, make you money.

There is a Spramotor built for every purpose. Simple in construction. Nothing to get out of order. Guaranteed. Write for free profusely illustrated booklet, "A Gold Mine On Your Farm."

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A NEW METHOD IN MODERN HORTICULTURE

Patent Applied For.

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## SCARFF'S TESTED SEED CORN

5000 bushel 1912 crop. Tested and sure to grow. Finest quality. 20 Varieties. Also Seed Oats, Barley, Grass Seed, Potatoes, etc. 1100 acres. Catalog and samples on request. Write today. W. N. SCARFF, Box 67, New Carlisle, Ohio.

## PEDIGREED OATS—WORTHY, ALEXANDER and Other Varieties.

Oats with a pedigree, bred by the Michigan Agricultural College from individual plants, thoroughly tested at the College and various parts of the State. Highest yielding of several hundred selections and varieties—grown in Michigan and adapted to Michigan conditions. Buy direct from the grower. Address

**Secretary Michigan Experiment Assn., East Lansing, Michigan.**

## VEGETABLE PLANTS

PRICE LIST. E. J. SHEAR & SON, 430 E. EUCLID AVE., JACKSON, MICHIGAN.

## SHEERIN'S APPLES

900,000, four grades—12 1/2c, 10c, 7c, 6c. 500,000 peach—8c, 6c, 4 1/2c, 3 1/2c. 75,000 Cherry, 50,000 Pear, 25,000 Plums, 25,000 Quince, and thousands of Roses, Ornamentals, Grapes and small fruits. Secure Varieties now. Pay in spring. Place your order with the men who grow their own trees and save disappointment later. Catalog free to everybody. Write for yours today.

The only persons by the name of Sheerin in the nursery business in Danville

**SHEERIN BROTHERS NURSERIES, 26 Main St., Danville, N.Y.**

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Best for windbreaks. Protect crops and stock. Keep house and barn warmer—save fuel—save feed. Hill's evergreens are hardy, nursery-grown—low priced. Get Hill's free illustrated evergreen book and list of Great Bargain Offers—from \$4.50 up per Thousand. 50 years experience. World's largest growers. Write.

**D. HILL NURSERY CO., Inc., Evergreen Specialists.**  
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## ALFALFA \$7.00 BU.

Best Hardy Non-irrigated Seed 99.8% Pure 99% germination, \$9.50. Government tested. Absolutely guaranteed. Northern grown, extremely hardy. No seed better. Have Turkestan Alfalfa; Sweet Clover; grass seed of all kinds. Ask for our latest 60-page book on growing Alfalfa. 76-page catalog and samples. All sent Free. We can save you money. Write today.

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### The "Berlin Quart"



### The White Basket

That secures highest prices for your fruit. Write for 1914 catalog showing our complete line and secure your baskets and crates at WINTER DISCOUNTS.

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Berlin Heights, Ohio.



## Wins in the Two BIGGEST HATCHING Contests Ever Held

Why take chances with untried machines when for only \$10 we guarantee to deliver safely, all freight charges paid (East of Rockies), BOTH of these big prize winning machines fully equipped, set up ready for use?



**140 EGG**

Ironclads are not covered with cheap tin or other thin metal and painted like some do to cover up poor quality of material.

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Ironclads are shipped in the Natural color—you can see exactly what you are getting. Don't class this big, all metal covered, dependable hatcher with cheaply constructed machines—and don't buy any incubator until you know what it is made of.

Note these Ironclad specifications: Genuine California Redwood, triple walls, asbestos lining, galvanized iron covering, galvanized iron legs, large egg tray, extra deep chick nursery—hot water top heat, copper tanks and boiler, self regulator, Tyco's Thermometer, glass in door, set up complete ready for use and many other special advantages fully explained in Free Catalog. Write for it TODAY or order direct from this advertisement.

**IRONCLAD INCUBATOR COMPANY, Box 117, RACINE, WIS.**

Why not own an Ironclad—the only incubator that has for two years in succession won the greatest hatching contest ever held? In the last contest conducted by Missouri Valley Farmer and Nebraska Farm Journal, 2,000 Machines were entered including practically every make, style and price. With 140-egg Ironclad—the same machine we offer with Brooder freight paid, for only \$10, Mrs. C. F. Merrick, Lockney, Texas, hatched 148 chicks from 148 eggs in the last contest.

**30 Days Free Trial**  
Money Back if not Satisfied

Both for **\$10** Freight Paid East of Rockies

**140 Chick Brooder**

**130 Egg Incubator and Brooder** Both for \$10

Ordered Together—Freight paid east of Rockies. Hot water, copper tanks, double dead air space, double glass doors, all set up complete, or 180 Egg Incubator and Brooder \$11.50. FREE Catalogue describes them. Send for it today or order direct.

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**YOUR MONEY WILL NET 5%**

if invested with this Society. Interest paid semi-annually. Let us have your name and address and we will tell you of the advantages offered by this Society which has been doing business for over twenty years.

**The Industrial Savings Society,**  
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L. ROY WATERBURY, Pres. AUSTIN N. KIMMIS, Secy.

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**15 YOUNG ROVEN DRAKES** of good markings and are of extra large size, \$2.50 and \$3 each. David G. Fisher, R. 3, Box 28, Birmingham, Mich.

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B. P. Rocks, R. 1, Reds, and S. C. W. Leghorn eggs for sale, 15 for \$1.25 for \$1.50; 50 for \$2.50. OOLON C. LILLIE, Coopersville, Mich.

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**PRIZE WINNING BARRED ROCKS, S. C. Reds, Pekin and Indian Runner Ducks.** Stock for sale, eggs \$1 up. Circular free. EMWOOD FARM, R. R. 13, Grand Rapids, Mich.

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J. C. Reefer, the poultry expert of 1604 Main St., Kansas City, Mo., is giving away free a valuable book entitled "White Diarrhoea and How to Cure It." This book contains scientific facts on white diarrhoea and tells how to prepare a simple home solution that cures this terrible disease over night and actually raises 98 per cent of every hatch. All poultry raisers should write MR. REEFER for one of these valuable FREE books.

# Poultry and Bees.

## Pure Breds versus Mongrels.

With spring approaching, the question of improving the flock is given the deep consideration. Many will debate with themselves as to whether they should continue with the mongrels, go into pure-breds, or buy a rooster to breed up the flock.

Many follow the latter idea and produce a multi-colored and a mixed blood flock. Here, also, will we have a mixture of all the characteristic features of the various breeds blended together in such a way which ruins any definite aim in breeding. We cannot expect to mate an egg-producing strain with one producing meat and still secure the highest possible egg production, or vice versa. If egg production is desired, let us use a line of pure-bred fowls that are noted for their ability to perform in this manner. If we want the greatest quantity of meat, let us work with a strict meat producing line of poultry.

At the present time, there is a great amount of work being done along live stock improvement lines. The cattle man, because pure-bred animals are high in price, endeavors to grade up a herd with a single sire. We plainly see the advantages in having pure-bred cattle, but overlook that in fact in the case of poultry. It doesn't pay to grade up poultry because the time and money expended in grading will cost more in the long run than if we started out in the first place with pure-bred birds. The question with the majority of people boils down to the conclusion as to whether or not a pure-bred fowl can and will exceed a mongrel in either egg or meat production.

### Breeding for a Definite Purpose.

There is more reliability to be placed upon the breeding of the pure-bred fowl. A bird that has been bred for years for a definite purpose will surely continue to transmit this ability to its progeny, if bred within its own blood lines. A mixed flock can not be expected to build up other flocks of high-producing ability in any line because of the many blends existing.

It has been proven that birds bred for egg production have continued to produce larger numbers of eggs than fowls of unknown lineage and breeding. This is due to the fact that every bit of energy and effort has gone into egg production and not into the growth of tissue. No mongrel has succeeded in breaking records set by pure-bred fowls, bred for a definite purpose. Like the egg hen, the meat hen throws all her energy into the laying on of flesh, and because the mongrel hen has been bred for neither purpose she can not compare with the other two.

Most markets at the present time pay a higher price for the uniform size and shape of egg, as well as for uniform color. The pure-bred hen is the one best fitted to produce just such an article. As everyone knows, the eggs from a mongrel flock are noted for their lack of uniformity. A medium-sized egg is in greatest demand. With this must go, if first-class, uniformity in shape and size.

### Economy in Feeding Pure-Breds.

A flock of uniform color and size appears to much greater effect than if they present a mixture of blends and colors. How much more attractive to the eye of one traveling through the country to see, for instance, a flock of pure-bred Leghorns or Rhode Island Reds than to see mixed promiscuously a blend of the two. This very fact goes far in pointing out the systematic and successful farmer from the man who is not so successful. Above all, it denotes a pride in one's possessions.

The cost of keep of a pure-bred fowl is not any greater, if as great, as the cost of the mongrel fowl's keep. If for meat production, the food fed will be more economically used for the birds have been bred to lay on most flesh at the least possible cost. The mongrel bird will fairly eat its head off, as the expression goes, before it is ready for market. The same correlation is true of the egg producer. The food is put to a far more efficient use when fed for but one purpose, than when fed for a dual purpose.

After a start in pure-breds is made, pride enters into consideration. The breeder who endeavors to raise good birds will work up a reputation and as a result will find throughout the community a demand for his birds. This will gain him more than any profit formerly gained from the raising of mongrels. Eggs may be sold for hatching purposes at a price much in advance of prices paid for market eggs.

### How to Secure Pure-Bred Stock.

The first consideration to take into account is the purpose for which the breed is intended, that is, egg or meat production. After this is determined, we may secure the beginning in any one of three ways: (1) Buying the adult birds ready for mating; (2) buying eggs and hatching them; (3) buying young chicks.

The first method is very satisfactory in that the mating may be done by one's self and eggs of known parentage produced, thus avoiding any possibility of securing mediocre eggs or eggs of low fertility. One can by this method keep his own birds up to a state of highest condition and vitality.

The second plan is a bit dangerous in that the purchaser does not know the original handling and care of the eggs, unless he is personally acquainted with the producer. At the present time there are many well-known poultrymen who advertise and sell eggs for this purpose. One can seldom go wrong if he buys his eggs from such a reliable dealer or poultryman.

### Methods of Improvement.

The buying of young chicks is a very good plan for the average person if he has had previous experience in raising chicks. This method affords a plan whereby an immediate start can be gained.

The increased improvement in the poultry industry must needs start through the improvement: (1) Of the individual flock, and (2) through the increased efficiency of each separate bird. The total production should not be looked forward to as a means whereby the industry can be improved but the individual bird must be made a unit of study. In no other way can the infertile and barren individuals be eliminated. If each year the best birds are bred and these only, the outlook for each poultry raiser, as well as for the whole industry, will be made much brighter. This becomes all the more true if such breeding be within pure blood lines and not within one mongrel flock.

Indiana.

L. E. NEUFER.

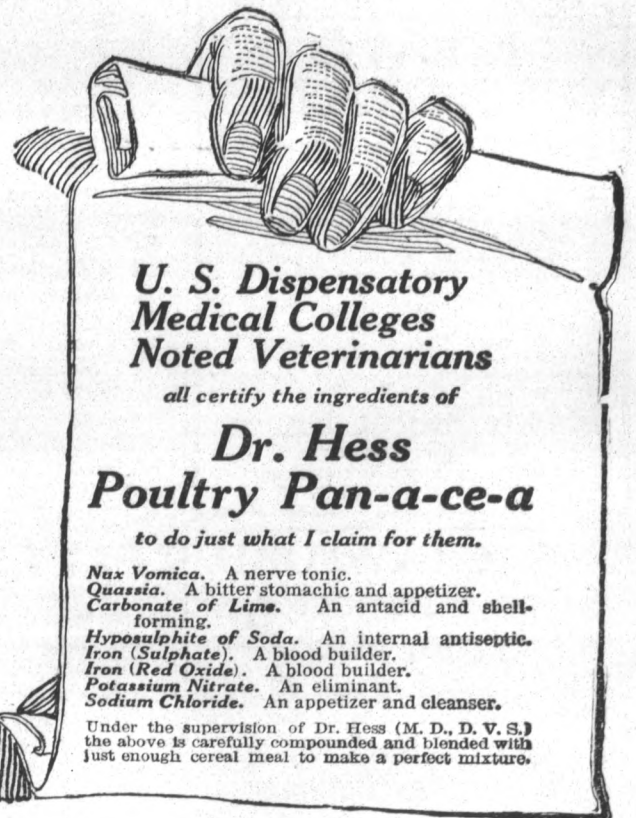
Where does the \$20,000,000 worth of honey go, is a question often asked. Many people seldom taste it and many others eat it only on rare occasions. As a matter of fact, we all eat it very often. The largest part of the product goes to the bankers, who use it in making cakes and cookies. They find no sweet which will take its place. Cookies made with honey improve with age, instead of getting dry and unpalatable, as when other sweets are used.



# I Will Tell You How to Make Poultry Healthy Make Hens Lay Make Chicks Grow

**GILBERT HESS**

*Doctor of Veterinary Science  
Doctor of Medicine*



The crying need of the poultry raiser right now is healthy, fertile eggs for hatching. Mating time is the time of all times that poultry need a tonic and internal antiseptic to put them in the pink of condition—free from disease. Then you get healthy, vigorous chicks that stand a far better chance of reaching maturity. Your hens should be toned up and in the pink of condition right now. The egg organs should be active and responsive, the appetite good and digestion likewise; and let me remind you of one thing before the chicks do come—more than one-half the yearly hatch succumb to Gapes, Leg Weakness, Indigestion and Lice, and most of these can be avoided.

Being a doctor of medicine and doctor of veterinary science, twenty-five years ago I combined science with poultry culture. I have learned what poultry need to make them healthy; what hens need to make them lay, and what your chicks need to help them along to robust henhood. And now I urge you to start right in and feed your flock my prescription—

## Dr. Hess Poultry PAN-A-CE-A

*Not a Stimulant, but a Tonic*

In this scientific poultry preparation I have put every ingredient that my twenty-five years' experience tells me poultry need to make them well; that a hen needs to make her lay; that chicks require to make them grow. It cures Cholera; an excellent constitutional treatment for Roup; cures Gapes, Leg Weakness, Indigestion and the like. In my left hand I hold the formula of my Pan-a-ce-a, showing every ingredient, what each ingredient is for and certified to by the U. S. Dispensatory—one of the world's greatest authorities.

I absolutely guarantee that Dr. Hess Poultry Pan-a-ce-a will make your poultry healthy—will tone up the dormant egg organs and compel each hen to lay regularly—help

chicks grow—get fertile eggs for hatching and shorten the moulting period.

So sure am I that my Pan-a-ce-a will pay you and pay you well, that I want you to take the coupon in the right-hand bottom corner of this page to my dealer in your town and he will give you a trial package absolutely free of charge. I have also authorized him to furnish you with enough Pan-a-ce-a for all your poultry, and if it does not do all that I claim, return the empty packages and get your money back.

Remember this, Dr. Hess Poultry Pan-a-ce-a is never sold by peddlers, but only by reliable dealers whom you know. 1½ lbs. 25c; 5 lbs. 60c; 25-lb. pail \$2.50. Except in Canada and the far West.

**Don't forget to get your trial package—it's free—take the coupon to my dealer in your town. If no dealer in your town, send us 5 cents in stamps to pay postage, give us the name and address of your dealer and we will send the trial package direct.**

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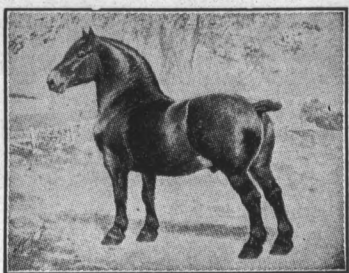


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Please hand bearer of this coupon a trial package of Dr. Hess Poultry Pan-a-ce-a absolutely free—to feed 12 hens for 2 weeks. Also give bearer my free new poultry book.





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## FOR SALE 2 Reg. Percheron Stallions

1 black & 1 gray 3 years old. Both sound and sure foal getters. Priced for quick sale, as other business requires my attention and cannot use them longer in the herd.  
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## PUBLIC SALE. March 5, 1914.

This sale is to be held 3 1/4 miles northwest of Monroe, Mich., on the McBrain road.  
4 head of horses, 61 head cattle, 19 brood sows  
1 Poland China Stock Hog, 111 Shoats, 4 sheep and all farming tools.  
**L. WEBER, Auctioneer. S. M. BOYER.**

## 18 Percheron Stallions

2 to 4 years old, blacks. Also young mares.  
**A. A. PALMER & SONS,**  
BELDING, MICH. 1 1/4 Miles from Orleans.

**PERCHERONS** We have 10 high-class stallions. Brood mares and young stock. Prices to sell. All registered. Pioneer Stock Farm, John Schipper, Fillmore Center, Mich.

**SOME** fine young registered **Clydesdale Stallions** for sale from 1 to 4 years old. In the spring some will make ton horses with lots of quality and good action. Must be sold before the first of April.  
**F. A. PETZ, Capac, Michigan.**

**2 Clydesdale** and 1 Percheron Stallion, choice animals; one weighs 2100 lbs. Price right. **JOSEPH PHILLIPS**, Maidstone, Ont., Can.

**FOR SALE**—3 Reg. Percheron Stallions, 3 to 7 yrs. old, of breeding and individual merit combined. Come or write, **H. B. Peters**, Burton, Mich. R.R. Sta., Elsie.

**For Sale**—Registered **PERCHERON MARE**, 4 yrs. gray, sound, weight 1600 lbs. In foal to an imported double grand son of Besigue. Price \$400. **R. H. SHERWOOD**, Watervliet, Mich.

**REGISTERED PERCHERONS**—FOR SALE. Two two year old Stallions. Also Some mares, all ages at farmers prices. Visitors always welcome. **F. L. King & Son**, Charlotte, Mich.

### THE POSSIBILITIES IN BABY BEEF PRODUCTION.

(Continued from page 231).

but that was about the prevailing price for stock cattle of the best grade at that time.

That the calf was finished into a good quality of baby beef is attested by the fact that he brought \$10.25 per cwt, on the Chicago market, or a total of \$129.15, leaving a margin of difference between the estimated value of the calf on May 1 and his sale value early in December of \$81.57. Deducting the value of the grain fed the calf, this would leave a balance of \$51.57, which would represent a very handsome profit above the value of forage and labor incidental to the calf's development.

This is, of course, an extreme illustration of the possibilities of baby beef production. This calf was handled along with the Woodcote herd of Angus cattle which were being prepared for showing. He was turned out nights in the heat of the summer in a small alfalfa lot, being taken in mornings and fed chopped hay along with grain and oil meal, which was the bulk of his ration. The calf was groomed the same as the individuals of the show herd, and flies were kept away from him as much as possible, and he was, of course, provided with plenty of salt and fresh water at all times. It is an open question whether this kind of care would be profitable in the production of baby beef, yet that it was profitable in this case can hardly be questioned, when it is considered that in a seven months' feeding period, this calf produced an income to the feeder which would compare favorably with the income made by the average dairy cow in good dairy herds, and even with this kind of care, the feeding and labor expense was undoubtedly less than would be required to keep the dairy cow for a full year.

While the value placed upon this calf at the beginning of the feeding period may be considered by some as high, and was considered by Mr. Minty to be above the cost of producing, some other instances have been reported in which steer calves have sold at about this price. Mr. George B. Smith, of Lenawee county, reports an instance noted in his own community where some grade Angus last spring's steer calves recently changed hands at \$45 per head, a price which would undoubtedly more than cover the cost of production, yet which, in the light of the results above reported, does not preclude the possibility of making a good profit in baby beef production from this kind of stock. In fact, feeders who have had experience in baby beef production have long since learned that the best calves obtainable are none too good, and that greater profits are made from the best than from those of inferior quality. Quality is of even greater importance in the material for the production of baby beef than in older feeding animals, which is an argument for the improvement of our common cattle through the use of high-class sires of the best beef breeds.

### HANDLING LATE WINTER LAMBS.

There are some special features in the handling of late winter lambs which require particular attention to insure the least trouble with the ewes and also to guard against heavy losses to the newly-born crop. Winter is unnatural weather for lambs to come, and in order to counteract influences provoked by adverse climatic conditions, additional attention must be directed beforehand to have things in readiness. Heavy and unnecessary losses with late winter lambs occur because of inadequate arrangements for handling the newly-born crop.

Adequate protection against sudden weather changes is one of the prime essentials in handling late winter lambs. No flockowner should attempt

raising winter lambs unless properly situated to give them the necessary shelter from cold, chilling weather. The building need not necessarily be expensive, but it should be spacious, light, dry and well ventilated. Not infrequently the sheep shed can be divided so that a portion along the south side can be used for handling the young lambs. The atmosphere is also much drier and warmer on the south than any other side of the building. The flock owner who plans to have the lambs dropped during the late winter should always be on his guard not to allow a ewe to lamb at night out in the cold.

The feeding of the ewes previous to and immediately following lambing, has a marked influence on the temperament of the ewes and their disposition toward their offspring. Feeds that tend to produce excessive heat cause irritation and fretfulness. All feed furnished the ewes following lambing should be selected with much care and with the aim in view to keep the system in as normal condition physically as possible. Feeds containing a high percentage of succulent matter are good at this particular time as they materially assist digestion and aid in developing a strong flow of nourishment for the newly-born lambs. I have always found that ewes following lambing crave some succulent food more than at any other time.

Every precaution should be exercised in the management of the flock, both ewes and newly-born lambs, to prevent any setback that will reduce milk flow or impair bone and flesh formation. The old adage, a lamb well started is half grown, never made its truth more apparent than in handling late winter lambs. The lambs are altogether dependent upon their mothers for sustenance and any drawback is sure to become manifest in the thrift and vitality of the young lambs. Exposure to sudden climatic changes, such as drenching storms, cold winds and damp, filthy quarters, should be guarded against. Improper feeding of the ewes so as to reduce milk flow is also an important matter. Success with late winter lambs much depends upon management, and no flock owner can profit unless he direct special attention to promote the general welfare of his flock.

Shiawassee Co. L. C. REYNOLDS.

### SHORTHORN BREEDERS MEET.

The Second Meeting of the Central Michigan Shorthorn Breeders' Association met at Greenville, February 13, with a full attendance and several new members. The census of pure-bred stock owned by members showed an increase of better than 50 per cent over last year, and that members would be able to dispose of considerable breeding stock. The plan of this organization is to have its secretary put buyers in touch with members having the particular kind of animal wanted. The secretary keeps on file in his office the description and price of all stock for sale by members of the association. This plan gives the small breeder the same advantage in the disposal of his surplus breeding stock as that possessed by the large breeder. The members at the meeting were enthusiastic with respect to the future outlook for the Shorthorn. They are all positive in their belief of the existence of a "dual purpose" cow, and that it is this cow that is in great demand by the average farmer and that the Shorthorn is "it." Oscar Skinner was elected president and C. W. Crum secretary.

There is an abundance of rough feed and low-grade corn adapted for fattening cattle in various parts of the middle western corn belt states and this is potential in creating a good demand for stock and feeder cattle. The feeding proposition looks good to many farmers of this part of the country, and they expect to make it pay, the high prices for such stock reflecting their scarcity.

Hog slaughtering at western points has been running along weekly at the rate of 633,000 to 650,000, comparing with 504,000 a year ago. The demand is active for all desirable droves of hogs, and of late eastern packers have been large buyers in the Chicago market.



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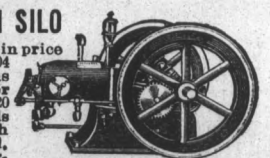


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stand for service and beauty. They prove an ornament to any barn, properly ventilate it and keep out draft, rain and snow. Built along scientific principles. They draw out impure heated air and supply pure, fresh air which is necessary to **Keep Live Stock Well**. Made of heavy, galvanized iron which insures lasting service. Far superior to the old style cupola and very reasonable in price. **Instructive Booklet Free**. Gives valuable information on the Ventilation of Modern Farm Buildings. Send for it today. **Thomas & Armstrong Co., Dept. M. London, Ohio**

### FILL YOUR OWN SILO

Our outfit, moderate in price filled 11 silos in 104 hours, with 65 gallons gasoline, cost \$1.07 per silo. Engine saws 20 cords wood or grinds 50 bushels corn with one gallon, free trial, postal card gets information, address, **ECONOMIZER, Box 95, Marcellus, Michigan.**



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## 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 someone else. When reply by mail is requested, it becomes private practice, and a fee of \$1.00 must accompany letter.

**Quittor.**—My three-year-old filly ran a spike in foot last September and it has not healed. I have applied many different remedies, but none of them appear to have much effect. There is now an opening large enough to admit my two fingers. E. C., Clarks-ville, Mich.—I am inclined to believe that some surgical work should be done on foot and that you have made a mistake in using caustic applications. Trim foot to its natural shape, then apply iodoform, covering sore with oakum. The wound should be dressed every day or two.

**Rheumatism.**—I have three shoats that are lame in hind legs; several small bunches have appeared in joints and I have thought that the most of their trouble was in back. H. G., Allegan County, Mich.—Apply tincture of iodine to bunches three or four times a week, and give 10 grs. powdered nitrate of potash at a dose three times a day to each one. Feed less corn, more oats and oil meal.

**Indigestion—Weak Heart.**—Last May my eight-year-old mare had an attack of acute indigestion and soon lost flesh. Her teeth are all right, has a good appetite, but gives out when moderately exerted. L. O. O., Clarks-ville, Mich.—Give her 1 dr. ground nuxvomica, ½ dr. ground gentian, 1-2 oz. ground ginger and a teaspoonful of powdered sulphate iron at a dose in feed three times a day. Also add a little salt to each meal. She should have walking exercise every day; besides feeding her plenty of grain, give her some roots.

**Indigestion—Asthma.**—I have a three-year-old cow that is losing flesh rapidly; she has a poor appetite and breathes as if she had some affection of the bronchial tubes. C. J., Benzonia, Mich.—She may have tuberculosis, therefore I suggest that you have her tested with tuberculin. Give her ½ oz. of Fowler's solution, 2 drs. of muriate ammonia at a dose three times a day. Also give her 1 dr. of ground nuxvomica and 1 oz. of ground gentian at a dose in feed two or three times a day.

**Kicks in Stable.**—I have a mare that kicks the stall down nearly every night; have tried fastening chain to one leg, with very poor results. Can anything be done to break her of this habit? H. C., Belding, Mich.—Why don't you keep her in box stall and work her more? Spaying might have the effect of quieting her nerves, or breed her.

**Wounded Shin.**—I have a 10-months old colt that was cut on barbed wire last October, wounding shin six inches below hock and there is yet two small openings which discharge pus. The case was treated for 60 days by a Vet., who failed to effect a cure. O. C., Morley, Mich.—Apply a small quantity of iodoform daily and kindly understand you should allow it to heal, continually syringing fluid through canal very often keeps a wound of this kind from healing.

**Chronic Garget—Flat Weak Feet.**—I purchased a 9-year-old cow last summer shortly after she had been treated for milk fever. The Vet. gave her air treatment. After I got her she was bothered with caked bag at intervals until nearly dry. I applied sweet oil and camphor to the caked quarter and it would respond promptly; but in a day or two would be as bad as ever. More than one-quarter has been affected and I would like to know how to prevent a recurrence of milk fever and the caking. I also have a five-year-old driving horse whose front feet are flat and my horseshoer tells me he has no quarters. Without shoes he is unable to travel and the difficult part is to keep him shod. B. H., Bangor, Mich.—Apply one part iodine and 15 parts fresh lard to caked portion of udder every day or two. Exercise her daily and don't overfeed her before she calves, and after calving only milk about one-third part of milk out of udder at a milking for two or three days, and she will not be nearly as apt to have milk fever as if you completely empty udder two or three times a day. I do not believe she will prove profitable for dairy purposes. Very little can be done to improve your flat-footed horse. He should be worked slowly on farm, instead of being driven on road, and his feet kept moist.

## 3 Facts About Contagious Abortion

It causes heavy loss of calves and milk  
It will spread to the whole herd unless stopped  
It can be wiped out and kept out of your herd

Fully one-fourth of all the cows of the country are affected by this disease. It is highly contagious and spreads rapidly when started. It cannot be overcome by any one medicine, but Dr. David Roberts' Anti-Abortion Treatment stamps out the disease because it meets the germ at every turn.

**Anti-Abortion** medicine overcomes the germs in the mother's blood—gets at the root of trouble.  
**Antisepto** overcomes the germs in the genital organs.  
**Disinfectall** overcomes the germs in the stables.

Remember, no one medicine can possibly overcome this disease. But Dr. Roberts' Treatment, applied by yourself, makes it impossible for Abortion to exist in your herd. The Practical Home Veterinarian, Dr. Roberts' great book, gives particulars on all animal diseases. 184 pages. Practical, plain, authoritative. Best book published for posting up on your animals. This big, plain, practical book will give you and your sons a veterinary knowledge of how to care for ailing animals. Sent postpaid for 25 cents.

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**I Will Sell at PUBLIC AUCTION**

At the Walnut Brook Farm.

40 bred Sows and Gilts, 5 spring, 4 July and 8 Oct. boars. Free delivery from Augusta. Write for Catalog.

**W. J. HAGELSHAW, Augusta Mich.**

## BREEDERS' DIRECTORY.

### CATTLE.

## ANGUS CATTLE FOR SALE

We have on hand several choice pure-bred Angus bull calves which can be sold for immediate delivery. These calves are sired by Louis of Viewpoint, a Grand Son of Lucy's Prince, the International Grand Champion bull for three years in succession. We also have for sale a few choice heifers from this herd bull. Will make a price on Louis of Viewpoint as some of his heifers are old enough to breed. Address

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Strains represented consist of Trojan Erics, Blackbirds and Prides, only. Black Quality 1 to, a bull of rare individuality and merit, heads the herd.

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Sired by one of the best bulls of America. **LONG BEACH FARM, Augusta, Kalamazoo Co., Mich.**

**\$250** buys a registered Holstein cow 12 yr. old, fresh March 6th, 1914. Calf contracted at \$125 if a heifer or \$100 if a bull when 8 months old. **B. B. REAVEY, Akron, Michigan.**

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Reg. Holstein—Beautiful 4 months old Grandson of R. Pieterje Hengervelds Guest Dekol, 88 A. R. O. daughters, A. R. O. sire and dam. Hard to beat this breeding. \$35, delivered. **Hobart W. Fay, Mason, Mich.**

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Offers Choice Purebred Holstein Bull Calves, 1 to 7 mo. old. Also choice grade Holstein heifers out of good milk producing dams. List furnished upon application.

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Choice bull calves from 1 to 3 mo. old, of fashionable breeding and from dams with official milk and butter records for sale at reasonable prices.

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### Some Holstein Bargains.

**Minto Butter Boy** 3d, No. 71404—Dam, **Palme Dekol Pride**, No. 53133. Butter in 7 days, 26.53 lbs., milk 508.61, per cent of fat 4.22. His sire **Minto Butter No. 28908**, with 11 A. R. O. daughters, and he by **Pontiac Butter Boy**, with 57 A. R. O. daughters.

**Handy Walker Segis**, 13 months old, by a grand son of **King Segis**, 77 A. R. O. daughters and out of a 22-lb. dam.

**Star Pontiac Bonheur**, 13 months old, by a grand son of **Pontiac Korndyke**, 77 A. R. O. daughters, and out of a daughter of **Rosa Bonheur** 5th, **Colantha Lad**, 10 A. R. O. daughters. **DON'T** buy a bull until you know about these three.

**FIVE A. R. O. cows**, each with a heifer calf, sired by **Minto Butter Boy** 3d, No. 71404. **A BARGAIN** to some one wanting 10 females. Write or come **QUICK** if you want any of the above bargains.

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### BUTTER BRED JERSEY BULLS

**CRYSTAL SPRING STOCK FARM,**

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Bulls calves bred for production. Also cows and heifers. **Brookwater Farm, R. F. D. No. 7, Ann Arbor, Mich.**

**MAPLE Lane Register of Merit Jersey Herd**—Tuberculin tested by the U. S. Bureau of Animal Industry. Bull calves from cows of R. of M. test. No females less than \$100. Average of R. of M. herd, 526 lbs. of 85% butter in one year. **IRVIN FOX, Allegan, Mich.**

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1-yr. old, also 2-yearling heifers sired by a grandson of Imp. Interested Prince. The Dams are large healthy high producing cows. **Newman's Stock Farm, Marlette, Mich. R. I.**

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Strong in Bates blood \$100 to \$150 each. **WARNER BROS., Almont, Michigan.**

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**Leicesters**—Yearling and ram lambs from Champion flock of Thumb of Mich. Also select **Bekshire** swine. **Elmhurst Stock Farm, Almont, Mich.**

**IT PAYS TO BUY PURE BRED SHEEP OF PARSONS,** "the sheep man of the east." **Oxford, Shropshire, Ram-bouillet, Polled Delaines, PARSONS, R. I. Grand Lodge, Mich.**

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**Durocs & Victorias**—A few extra Sept. Boars and Bred Gilts of the most up-to-date breeding. **Story Farms, Howell, Mich. City Phone 55.**

**BERKSHIRE** For Sale—Sow Bred for April farrowing and a choice lot of fall pigs either sex. **A. A. FATTULLO, Deckerville, Michigan.**

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**THIS O. I. C. SOW WEIGHED 932 LBS. AT 23 MONTHS OLD**  
**IONIA GIRL**  
I have started more breeders on the road to success than any man living. I have the largest and finest herd in the U. S. Every one an early developer, ready for the market at six months old. I want to place one hog in each community to advertise my herd. Write for my plan, "How to Make Money from Hogs." **G. S. BENJAMIN, R. No. 10 Portland, Mich.**

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**POLAND CHINAS**—Bred sows all sold. Some good growing fall pigs. Prices right. **G. W. HOLTON, R. No. 11, Kalamazoo, Mich.**

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Spring gilts, splendid ones. Fall pigs, either sex. Gilts bred for spring farrow.

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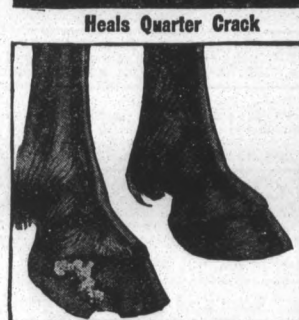
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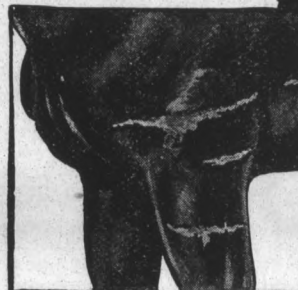
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Corona Cures Sore Teats of Cows



Before and After—Case of Grease Heel