

# MICHIGAN FARMER

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## Turnips, Rape and Clover Seeding.

It is often remarked that we are not farming as our forefathers farmed. We might properly add that we are not thinking as our forefathers thought. We have far different problems to solve.

Our forefathers followed along in a well beaten path and imitated the practices of those before them and around them without tracing effects to causes. Their methods were empirical and not according to any plans suggested by scientific knowledge. They put their time and effort into their farming, and if in return they were favored with good crops they considered themselves successful farmers. If conditions on their farms were unfavorable and their crops were not good their neighbors pronounced them failures.

After long periods of years of raising crops and selling them off the farms, the yields of grain rapidly diminished. A feeling of alarm was universal for the prospects of future profits on the outlay of labor and seed had vanished. To get relief some "pulled up stakes" and moved to the frontier where bright prospects were again before them. It has been my privilege to meet pioneers who have moved from their so-called "betterments" to a new portion of country, four different times. They were soil robbers, living by wasting the virgin endowments of the soil, until through age, and lack of more fields to injure by actual abuse, they have passed from the stage of action or settled down to deplore the fact that "farm-in" is not what it used to be.

The more stable and thoughtful ones bought out their neighbors' "betterments" and applied themselves to the task of rejuvenating and improving the condition of the injured and partially worn out soils. Stories of improving the worn out

soil, by sowing clover, and rotating the crops, were believed, and the plans were adopted with considerable success. Farmers generally congratulated themselves with the idea that they had learned the "art of farming." Up to the time that the Michigan Agricultural College was established the plan of applying scientific knowledge to farming was not seriously considered, except, perhaps, by a limited number of men who lived in advance of their age.

Things proceeded well for a time. The clover acted as a soil rejuvenator when plowed under, and was valuable as a forage crop where live stock was kept and manure returned to the soil, which was also an aid in maintaining soil fertility. But alas! farmers failed to get a catch of clover and the rotation was broken up too often. The cause for the failure of the clover was not well understood. Our good Dr. Miles said that the land had become "clover sick" and farmers would have to wait until the land would again endure the clover.

We were frightened from other sources by the statements made that the available nitrogen in the soils would, in a short period of time, be exhausted, and our farms would be but a barren waste. But the investigator, Hellriegel, who had the curiosity of a small boy with a watch, pried open the works of the fauna and flora of the "invisible kingdom" of life, and discovered that the nodules on the roots of the legumes were the home of bacteria that gather nitrogen from the atmosphere, and that clover which was considered valuable as a forage plant would carry with it nitrogen to the soil, both as a green manure and in barnyard manure.

The investigators were disappointed in

many trials. Clover refused to grow in some soils, which by analysis they found were sour; and like a mother of a child with a sour stomach, who would give a dose of lime water, they applied lime to the soil, which worked well as long as the food for the bacteria in the soil lasted. They soon found that the bacteria relished starches and sugars, which are carbohydrates. Sugar was applied to the soil with varying results. When applied in the winter it did no good. When applied in the summer the crops responded. But sugar is costly food for the farmers to feed the little workers in the nodules on the roots of the legumes.

By seriously thinking the matter over the reason why the Englishman who plows under a crop of sweet turnips can get a catch of clover began to dawn upon them. Analysis proved that decayed turnips were rich in starch, just the kind of food needed by the bacteria, the reason why the farmer who sows clover with rape gets a catch, and why as far as rape is sown in the fields of spring oats and barley, the clover gets root and "stays," as the farmers express it. They begin to see that the sheepmen who sow turnips on their light, sandy soils, seed to clover and pasture, with sheep to stamp down and compact the soil while they enrich it with their urine and droppings, get a catch of clover and begin to build up their poor, worn out lands, have given too much credit to the sheep. The excreta from the roots of the turnips, and subsequent decayed portions of the turnips themselves furnish the food needed by the bacteria that live in the nodules on the roots of the clover and carry to the clover roots the nitrogen that stimulates the growth of the young plants, and thereby aids in not only getting a

"catch," but aids in building up the soil, preparing it for the production of other crops.

If, by the employment of members of the cabbage and turnip families, we can avoid interruption of the clover crop in the rotation, we will have gained an important point; and if we can insure a growth of clover in the worn out and thin soil, we will be able to take the first step toward rejuvenating and making valuable many of what are now worthless spots on the surface of the earth. Rape and turnip seed may be made valuable agents that will assist us in coaxing representatives of the "invisible world" to perform the important task of extracting nitrogen from the bountiful supply in the air, and make it possible for several individuals of the human family to exist where only one exists now. We have reason to thank the investigator, Hellriegel, for "taking the works apart," so to speak, and showing us some of the secrets of the abyss of nature, which will be of inestimable value in solving many serious problems in the future.

Wayne Co.

N. A. CLAPP.

### EXPERIENCE WITH SWEET CLOVER.

I have sown sweet clover during the past four years, in a variety of ways, at different seasons, on hard clay, sand and muck, on good and poor land, and find that, sown in the spring with shallow covering, or no covering at all, it has all done well, with the exception of that sown in the pasture. That came up and looked fine for a while, but the stock grazed it so closely that it soon disappeared.

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clover and alsike. To the whole was added 40 lbs. of hulled sweet clover seed of the white variety, which was gathered from the roadside. The seed was sown with oats and altogether made a good stand and was cut for hay early in June the following season. While all made a good growth the sweet clover was six or more inches taller than the other clovers. The hay cured in good shape and was all eaten by the stock, as well as any hay we have ever fed. Four acres of this land was plowed at once after taking off the hay and harrowed about once a month until the 15th of August, at which time it was seeded to alfalfa without any farther inoculation, and on examination it was found to be well inoculated.

Last spring we seeded eight acres with oats, using 12 lbs. of clean, hulled sweet clover seed to the acre, both being put in with grain drill. This we thought was nearly a failure until after the late rains, as but few plants appeared, but of late it is thickening up in good shape, which goes to show that it must have been covered too deep.

We find it will make a good growth where alfalfa or red clover will fail. We also find that by cutting when about 18 inches high it makes fine hay and is not hard to cure. Stock eat it as well as any hay we have ever fed and do well as to both flesh and milk. It having the same habits as June clover, no one has anything to fear, as it will not become a pest, although the writer was reported to the highway commissioner for spreading a noxious weed.

In no case has inoculation of any kind been used, but in some cases it might have done better had it been inoculated, the color at first being a light green, but later it became dark. By cutting in June when the hay crop should be cut, cutting with a high stubble, it soon comes up and will make a good growth to plow under or will make a crop of seed. We have nearly four bushels of fine hulled seed which we expect to sow in the spring.

Hillsdale Co.

W. G. BOYD.

### STORING SEED CORN.

One of the essential conditions which makes for good seed corn with the proper per cent of germination is good storage conditions and this condition is just as important, or nearly so, as the selection of the seed ears. In order that this last statement shall not mislead anyone I will explain it somewhat. If one has picked out very good ears and ones that come up to the standard or ideal that he has set for himself, no matter how poor the conditions of storage over winter, some of the kernels will grow, and if they do they will reproduce ears of corn of the desired type but the chances are that there will not be a good stand if the corn has not been well kept.

On the other hand, poor or mediocre ears, if kept in favorable storage conditions will give a good percentage of germination but the plants produced will not be up to the standard. In the seed we want good germinative power and the ability to reproduce a plant which shall be vigorous and of the same type as the parent kernel. In our selection from the plants in the field and then working over the individual ears which have been husked from selected seed-plants, our main object is to pick out individual ears which are of the desired type and consequently will transmit their desirable characteristics to their offspring.

Now storage has to do only with maintaining the germinative quality of the seed. It does not increase nor decrease the inheritance of the kernels, for that is already determined. The case is something similar to that of an Asiatic king who had a mare from which he wished to raise a beautiful colt. Thinking to make the colt more beautiful, he had the mare bathed with wine and costly ointments, but to his disappointment, the colt which was produced was just an ordinary colt and no more beautiful than the mother. In other words, he was not able by any manipulation of the mother to increase the inherited tendencies of the colt, and so it is with the corn. The finest storage conditions cannot make undesirable ears bring forth ideal plants.

### Store Seed Corn in a Dry Place.

After the ears selected have matured on the stalk, they are husked and allowed to cure in the field for a few days; that is, until a large part of the excess moisture has evaporated. After evaporation has continued as far as it will under field conditions, the corn may be stored for the winter.

The storage conditions for the win-

ter are the essential ones to be looked after. Perhaps during the early fall the seed ears may be left in the corn crib or some other convenient outbuilding but at the approach of freezing weather they should be taken to some warmer place where they will not freeze. One can readily see that the expansion of the kernel caused by the freezing of the water contained in it, will crack the kernel. If this crack is made in the fall, the chances for a good stand when the corn is planted are diminished. There is probably no reader of the Michigan Farmer who has not seen kernels of corn which seemed to have cracks in the sides. An ear in which kernels of this sort predominate is not a very good individual to save for seed.

Just as soon as a crack is made into the horny part of the kernel, just so soon is there an avenue made by which the spores of mold can reach a portion of the kernel where they can get at work and they do not let the opportunity pass to get into the kernel. As long as the hull is on the kernel, there is no danger from molds for we have none in Michigan which are able to bore their way through a perfectly sound hull, but cracks make a convenient entrance. One can readily see that if this crack is made in the fall by the freezing of the ear, the mold has all the time during the warm days in the winter to work and will probably destroy the germs of a great many kernels. Especially in the fall, the kernel is moist and this moisture taken together with the natural sweetness of the inner part of the corn kernel makes a sweet solution which is an ideal place for fungi to work. So we see that it is very important that the seed ears are not allowed to freeze.

### Kiln Dried Corn Not Desirable.

While seed corn should be kept dry it should not be kiln dried; that is, it should not be dried by artificial heat. When corn is placed under the warmest of natural conditions, it will get just so dry and no more. There is always a little moisture which will not come and this is called residual moisture. When this residual moisture is driven out—and it can only be driven out by artificial means, the chances for perfect germination are greatly decreased and the practice of placing seed corn in an oven and driving out the moisture in this way is not considered to be a very desirable thing to do.

Of course, it goes without saying that the corn should be put somewhere and hung in such a manner that the rats and mice cannot get at it. One convenient way of storing seed corn is by means of a 2x4 about four feet long, through which twenty-penny spikes have been driven at such distances apart so that the butt of an ear may be stuck on each spike. When this is suspended from the ceiling of a drying room, we are quite certain of having good corn to plant in the spring.

To sum up, then, the value of seed corn depends upon the type which has been selected and the way this corn is stored; being sure that the corn does not freeze and that it is not placed in an excessively dry room.

Ingham Co.

I. J. MATHEWS.

### CONCRETE FOR A PRESSURE TANK.

Kindly advise through the Michigan Farmer if a pressure tank can be made of concrete that will give satisfaction and if, so how?

Mason Co.

J. C. G.

It is possible, from an engineering standpoint, to build a reinforced concrete pressure tank for a pneumatic water system. The writer does not consider it advisable, however, unless the builder is backed by experience in reinforced concrete construction. Plans for this construction suggest a tank not to exceed five feet in diameter with reinforcing of one-half inch steel rods running both lengthwise and around the tank and properly spaced, of course. To insure air tightness the inside is painted with hot paraffin. This method was found to be extremely difficult and unsatisfactory by the writer. If an attempt is made to build such a tank it should be of concrete, amply reinforced and around an inner tank of heavy galvanized iron to insure air tightness. It is doubtful then if it can be done cheaper than the cost of a steel tank of equal capacity and strength.

Mich. Ag. Col.

H. H. MUSSELMAN.

The spread in prices for matured hogs in the Chicago market has narrowed materially of late, but little pigs are selling at a big discount from hog values. Prime light hogs are topping the market, with scant offerings frequently.



## SOIL AND FERTILIZER QUESTIONS.

## Fall Plowing.

We intend to do some fall plowing this year and would like to know which crops benefit most from fall plowing. Also is it late enough for fall plowing?

Kent Co.

C. J. S.

Except in rare instances, if I could do the plowing in the spring just when it ought to be done, I never would do any fall plowing. It is undoubtedly a better practice to have the ground covered by a growing crop if possible, certainly with the living roots in the soil during the fall and winter and early spring, than it is to have the ground bare. These growing roots are taking care of all the soluble nitrogen in the soil that is liable to be leached out by excessive rains. These growing roots in the soil prevent erosion on land that is subject to erosion. Take quite rolling, sandy, gravelly land that is fall plowed, if we have an open winter and quite heavy rains in the winter time it is liable to gully and wash and much damage be done. On the other hand, if this land is covered with clover and grass or some cover crop, like rye or sand vetch, this prevents the washing or erosion.

But we can't do all this work in the spring just when it ought to be done. It is impracticable to try to do it. The season in the spring for getting crops into the ground is short in this climate and if one attempts to do any considerable amount of farming it is practically impossible to plow all the land in the spring and get it into crops in time. If you wait too late for plowing and the season is at all dry, you lose so much moisture that the crop lacks moisture, especially the dry season all summer. It is risky business. For instance, if one wants to grow a crop of beans. Now one of the best places to put a crop of beans is on a clover sod. It would be much better for the land if you could wait until May, the middle of May or the last of May, to plow this land. The clover then has made quite a growth and turning it under you are adding high grade vegetable matter to the soil and increasing the humus content, which everybody admits is an excellent thing to do on all of our lands that have been farmed for any considerable length of time. On the other hand, if you wait until the last of May to plow ground for beans and it comes off dry or is dry, the clover has already taken a vast amount of moisture from the soil, and if the weather continues dry the ground is liable to be so devoid of moisture that you can't grow a profitable crop of beans. This is so with any late sown crop. Had this land, however, been plowed in the fall and then disked or harrowed early in the spring to form an earth mulch, this would have saved all the sub-soil moisture and the land would have been in splendid condition for the bean crop when it was time to plant it the first of June. This land, however, if it is rolling and sandy soil, might have washed in the winter time and been injured in this way. We are between two evils in this respect, and we have got to use our judgment and do that which is the least.

Taking everything into consideration, I would do all the fall plowing that I had time to do, that is the safest way. We may lose a little bit by the leaching of the soil; we may lose a little bit by erosion, but we will get our work in shape so that we can get our crops in in the spring, we are taking no risk about the conservation of moisture, and, taking everything into consideration, one year with another, it is the safest and the proper thing to do. Of course, on real rolling lands perhaps it wouldn't do at all to fall plow, and it might pay to plow portions of the field that were level and leave the side hills and that sort of thing to be plowed in the spring so that they would not wash if we had an open winter. If we do not have an open winter; if frost comes early and locks up the soil, and the ground remains frozen all winter there wouldn't be any erosion even on rolling land. But you know what the weather conditions are in Michigan. We are liable to have an open winter with no frost in the ground for long intervals and heavy rains in the winter time, and then erosion raises havoc with our land.

Fall plowing can be done any time after the first of September. It could even be done before that time and be perfectly satisfactory. The time to fall plow is to plow when you have time to do it. Do it thoroughly. On heavy clay ground another reason for fall plowing is that turning up the subsoil in the fall

and leaving it bare all winter, the action of the frost and the elements tends to pulverize this soil and tends to set free some of the inert plant food. Heavy land, too, is not as liable to wash by excessive rains as the lighter, sandier, gravelly soils. Clay land, however, sometimes settles down by excessive rains in the winter time and becomes somewhat puddled so that it is almost as much work to fit it in the spring as it would be if you plowed it. Nevertheless, you don't run the risk of losing all of the subsoil moisture if the land is fall plowed and then harrowed or disked early in the spring, as one can work the land nicely.

## The Value of Lime in Leached Ashes.

Will Mr. Lillie answer the question as to whether hardwood ashes will correct soil acidity? If so, how much should be applied per acre?

Wexford Co.

T. W. N.

The lime found in leached ashes is just as valuable as the lime found anywhere; in fact, it is more valuable, pound for pound, than ground limestone or marl, because it has been burned and the carbonic acid driven off. In other words, it is caustic and will neutralize the acidity better than ground rock, which is not caustic. The only question is how much lime remains in the leached ashes? When ashes are leached much of the potash and much of the lime is dissolved by the water and taken out of the ashes. Now the value of these ashes depends upon the thoroughness with which they are leached. Ordinarily, leached ashes contain a sufficient amount of lime and potash so that they are well worth hauling. You not only get the lime that is left after the leaching but you also get a perceptible amount of potash in these ashes, which is a valuable plant food also. Unless you have to haul the ashes too far they are well worth the hauling, although I would not want to pay very much for them. If there is any considerable amount of these ashes it might pay you to send a sample to the experiment station or to the Michigan Farmer experiment laboratories, and ascertain the per cent of lime and potash in them. Then you will know more about their value. Nobody can tell without a chemical analysis anywhere near the amount of lime and potash left in these ashes, because no one knows the thoroughness of the leaching.

COLON C. LILLIE.

## DEEPENING AN OPEN WELL.

If one was on the ground and could find out all about the quicksand bottom in G. S.'s well which he desires to deepen, it would be easier to advise him. What is commonly called quicksand is apt to be a mixture of water sand, some stone, streaks of clay, a little real quicksand, and more or less water.

If there is plenty of water on top, one or two crocks (enameled tile) could be sunk in the bottom. The tile must be smaller than the well, say not over 2½ ft. from outside to outside, and be left a little above the bottom of the brick to prevent the sand getting away from behind the brick and causing it to cave, and the space behind the crock or tile must be kept full of dirt above the bottom of wall all the time the tile are being sunk and afterward. If there is much water two tile would be enough and the bottom one ought to have a little gravel in it to help hold the sand down, so there would be only about three feet of clear water in the well.

When sinking the tile stand on the top of the first, working the dirt out from under the bottom with a spade or shovel and keeping the tile as near perfectly straight up and down as you can. Keep the tile down as tight in the sand as you can. To remove the sand make a well scoop by nailing a piece of sheet iron or steel on a board fitted for a handle, and have the point slightly higher than it is where it is nailed on the board so it will act as a dipper in case there is much real quicksand in the mixture, otherwise leave it about square with the handle. Should the water go down, a still smaller tile might be sunk inside of the larger ones, the same as they were inside of the wall.

Another way would be to get No. 90 point and some pipe and drive it down to the bottom of the quicksand, put on your pump and keep it going until it pumps clear water, otherwise the point will get clogged with quicksand.

If there is much coarse sand or gravel I would use this last plan, or combine the two, so as to have my pump valves in the water and not have to prime the pump. One and a quarter inch pipe would be all right for this purpose.

Isabella Co.

F. G. SMITH.

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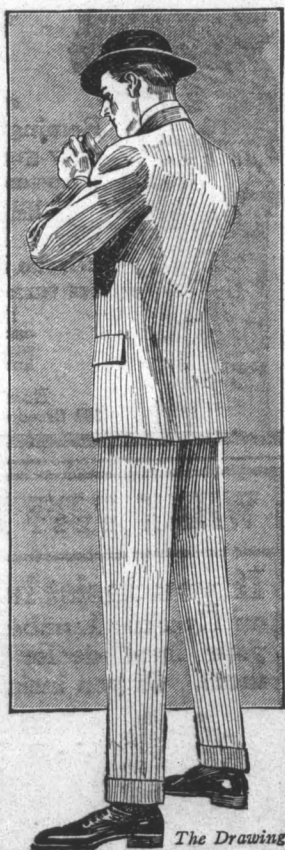
The artist drew the picture at the right from a living model. Then the model was photographed, as shown at left. The clothes are good-looking in both pictures—they will be as good-looking on you.

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The Drawing

## Practical Science.

### FERTILIZERS AND MANURES.

BY FLOYD W. ROBINSON.

The Usual Fertilizer is a Complete Fertilizer.

It is customary in the manufacture of commercial fertilizers to provide for a content of nitrogen as well as for phosphoric acid and potash. It has been but a comparatively few years that the real status of the nitrogen supply has been at all understood. Within the memory of some of our best agricultural chemists the prospect of a nitrogen shortage was very real and an exceedingly unpleasant possibility to contemplate. On the continent among many of the more prominent agricultural and physiological chemists there seemed very slight possibility of any escape from the consequences of a loss of available nitrogen in the soil. Farms were being depleted in fertility; the nitrogen thereof was leached by water from the soil and by evaporation into the air; the reduction of organic matter by means of fire and other destructive agents combined seemed to bring uncomfortably near the time when there would no longer be any available nitrogen for crop production.

#### The Microbe Plant.

One may imagine with what delight, therefore, came the discovery of Helriegel, that there was a plant which through its activities as host permitted a secondary plant to live upon its roots, and which had the power of transforming the nitrogen of the air from the gaseous condition back into a condition in which it could be used for plant growth. This discovery of the nitrifying bacteria, as it became afterwards known, was a great relief to scientists who had become almost frantic through the fear of the arrival of a time when nitrogen would be no longer available for plant growth. Even Bunge, that celebrated German physiological chemist, had begun seriously to think of advocating a public method of the disposal of animal and human bodies as well so that the element of nitrogen contained therein would be made available instead of being set free in the atmosphere. With the discovery of the microbe plant, as it was called, by Helriegel, the science of agricultural chemistry took a new hold on life and agricultural chemists breathed easier. Since then the workings of these tiny microbe plants have been studied more in detail and their influence upon plant growth has become more apparent to man.

#### It is Not Necessary to Buy Nitrogen.

We do not give great attention, therefore, at the present time to the nitrogen content of manures except that by a proper manipulation in crop rotation the necessary nitrogen must be provided for. We would not be understood as saying in its finality that no economic consideration is given to nitrogen for nitrogen is still, and probably always will be, the most important factor as far as plant growth is concerned. It is more expensive in commercial fertilizers, and it is more expensive in any other available form. Nitrogen is a very peculiar element. It occupies, so to speak, the extremes in nature. In its most abundant form, that is, as free nitrogen in the atmosphere, it constitutes practically four-fifths of the volume of the atmosphere and in this condition it has its most passive existence. It will not support combustion; it will not support life; it is inactive, and it does not support itself readily to combination with other elements. Its very name, when pursued to its root meaning signifies inactivity. On the other hand, nitrogen in another form constitutes one of the most powerful explosives known to man. It is the nitrogen in nitroglycerine, in gun cotton, and in dynamite that makes these products so powerful in their activity. Again, in another form nitrogen constitutes one of the most deadly poisons known to man. Prussic acid, otherwise known as hydrocyanic acid, undoubtedly owes its exceedingly peculiar and poisonous properties to the nitrogen which it contains. We find again, that nitrogen in the form of egg albumin, lean meat, gluten of flour, cheese and the like, is the most valuable constituent of food-stuffs and in certain gaseous forms, in combination with oxygen, it has certain very decided anesthetic properties which

make it extremely valuable in surgery.

#### Nitrogen is a Very Expensive Element.

In commercial manures we find nitrogen again to be the most expensive ingredient of these manures and so we say that nitrogen occupies a unique position in the universe and is, of course, of very great economic importance. One might easily realize that before the discovery of the microbe plant which has the power of, we say, transforming the nitrogen of the air into nitrates where it is available for plant growth, that scientists might with reason view with great concern the removal of nitrogen from its more valuable form as food material, or as available plant food material, into its most inactive form as free nitrogen gas. It is this action that takes place every time a plant is burned; every time animal matter decays; and every time through wasteful processes the animal manures are allowed to dissipate.

The discovery of the nitrifying bacteria, has made it possible for the farmer in well directed agricultural industry, to preserve the nitrogen supply on his farm. An intelligent rotation of crops, therefore, means the keeping within the soil the optimum quantity of the all essential nitrogen. So when we assume the intelligent use of farm manures and the well directed employment of commercial fertilizers, with a proper crop rotation, we do not worry for the supply of the nitrogenous constituents on the farm. We may, therefore, in discussing the amount of fertility removed by crops, leave out of consideration for our purposes, the element nitrogen and confine our attention to the other two very important constituents, namely the phosphoric acid and the potash.

### LABORATORY REPORT.

#### Feed Definitions.

The Association of Feed Control officials of the United States have formulated definitions for some of the more common feed stuffs that come as by-products in the manufacture of other articles. Some of these are:

Cottonseed meal is a product of cottonseed only, composed principally of the kernel with such portions of the hull as is necessary in the manufacture of oil; provided that nothing shall be recognized as cottonseed meal that does not conform to the foregoing definition and that does not contain at least 36 per cent of protein.

Cracklings are the residue after partially extracting the fats and oils from the animal tissue. If they bear a name descriptive of their kind, composition or origin, they must correspond thereto.

Digester tankage is the residue from the animal tissue exclusive of hoof and horn specially prepared for feeding purposes by tanking under live steam, drying under heat, and suitable grinding. If it contains any considerable amount of bone, it must be designated digester meat and bone tankage.

Distiller's dried grains are the dried residue from cereals obtained in the manufacture of alcohol and distilled liquors. The product shall bear the designation indicating the cereal predominating.

Flax plant by-product is that portion of the flax plant remaining after the separation of the seed, and the waste fibre and a portion of the shives, and consists of flax shives, flax pods, broken and immature flax seeds and the corticle tissue of the stem.

Good cottonseed meal must be finely ground, not necessarily bolted, of sweet odor, reasonably bright in color and must contain at least 36 per cent of protein.

Grits are the hard, flinty portions of Indian corn without hulls or germ.

Hominy meal, hominy feed or hominy chop is a mixture of the bran coating, the germ and a part of the starchy portion of the corn kernel obtained in the manufacture of hominy grits for human consumption.

Malt sprouts are the sprouts of the barley grain. If the sprouts are derived from any other malted cereal, the source must be designated.

Meal is the clean, sound, ground product of the entire grain, cereal or seed, which it purports to represent: Provided, that the following meals qualified by their descriptive names, are to be known as, viz.:



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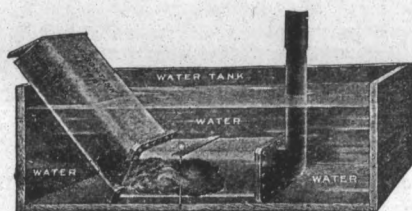
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# Live Stock.

## FEEDERS' PROBLEMS.

### Alfalfa vs. Timothy Hay.

Will you please give me the feeding value of alfalfa and timothy hay?  
Wexford Co. W. G. W.

Alfalfa hay contains the following digestible nutrients: Protein 11 per cent; carbohydrates 39.6 per cent; ether extract 1.2 per cent. Timothy hay contains: Protein 2.8 per cent; carbohydrates 43.4 per cent; ether extract 1.4 per cent. The relative feeding value depends somewhat upon the kind of animal to which it is fed.

Using as a basis values given to the different food nutrients in a recent Department of Agriculture bulletin, viz., protein \$.067 per pound; carbohydrates \$.006 per pound; fat \$.01 per pound, alfalfa hay would be worth \$20.16 per ton as a feed for live stock, as compared with a value of \$9.44 per ton for timothy hay.

For feeding horses timothy hay has perhaps a higher relative value, but there is little question that alfalfa hay is worth twice as much as timothy hay for feeding ordinary farm animals.

### Sheep Racks for Hay and Grain.

I would like to hear from someone through The Farmer how to build a sheep rack for feeding hay and grain to breeding ewes.

Genesee Co.

W. A. H.

Combination racks which may be closed to keep the sheep away from the feed which is being put in, whether hay or grain, are about the most satisfactory for a breeding flock. One of the simplest forms is a tight bottom rack about two feet wide. Cross pieces and side posts of 2x4's should be used to insure maximum strength and upright boards about eight inches wide placed on the inside to form the grain trough in the bottom. Another board about the same width to retain the hay about a foot above the first is generally used and it is better to cut the tops of the upright 2x4's on an angle and nail another board to this angle in order to make the rack a little flaring at the top as a convenience in putting in the hay. Then another board should be arranged in a slot made for the purpose in such a manner that by the use of a lever and a small rope attached to the board in the middle and running over a pulley it can be used to raise or lower this board in such a manner as to permit the sheep to put their heads in the rack or not, as desired.

A little ingenuity will aid any man in making such a rack from this description, which will be entirely satisfactory. One end of the rack should, of course, open on a feeding alley with a gate or closed end at the other extreme of the rack, which may be composed of one, two or more sections, as is convenient or desirable.

## FORAGE CROPS FOR SWINE.

The profits in hog raising come largely through pasturing. The Iowa Experiment Station in Bulletin No. 136 reports the results of experiments with forage crops for swine.

It was found that the profits from grazing an acre of alfalfa in 1911 was, with corn at 50c and hogs selling at 5c, \$65.99; hogs at 6c, \$97.09. The cost per 100 pounds of pork was but \$2.88. In 1909 the profit was \$23.62 with hogs at 5c and \$46.39 when hogs sold at 6c.

In 1909 clover, when grazed with hogs, returned a profit of \$32.34, hogs at 5c, and \$57.07, hogs at 6c. In 1910 the clover pasture returned \$28.82 and \$51.20 with hogs at 5c and 6c.

In 1909 rape returned \$27.50 and \$47.47 with hogs at 5c and 6c, respectively. In 1910, \$37.51 and \$68.64. In 1910 sweet clover returned \$42.07 and \$74.50 with hogs at 5c and 6c; in 1911 \$23.46 and \$39.50. Oats pasture returned \$15.33 and \$32.53 with hogs at 5c and 6c respectively. In 1909 oats, Canada field peas and rape returned \$22.83 and \$43.86, hogs at 5c and 6c. In 1911 three different lots returned \$53.45, \$39.52 and \$64.64 each with hogs at 5c. In 1909 the returns from blue grass were \$15.23 per acre with hogs at 5c and \$31.85, hogs at 6c.

In all the trial corn was fed and charged at 50c a bushel. Land rent was charged at \$6 per acre. All costs of producing the crop were figured in. Some meat meal was fed. This was charged at 2½c a pound.

Alfalfa proved to be the most satisfactory. It furnished pasture the most constantly of the crops tried. Sweet clover was satisfactory the first year but grew too rank the second year.

It is necessary to keep in mind that some grain needs to be fed the hogs in addition to the forage. When the pasture is alfalfa, corn is a good grain to use.

North Dakota.

W. C. PALMER.

## PREPARATION FOR MATING.

Success with the ewes and lambs during pregnancy and lambing in no small measure depends upon the state of health of the ewes previous to and throughout the mating season. Ewes depleted in vitality and in low physical condition are very likely to give a great deal of trouble at mating time and during the pregnant period. Nursing ewes are very apt, even under very favorable management, to become reduced in flesh during the summer months as the draft upon their system is heavy and pasture is generally deficient in nutritive value. The most profitable ewes in the flock are most likely to be the most depleted in physical vitality as they have carried the heaviest portion of the load in rearing the lamb crop.

The flock in the fall always varies widely in flesh condition, due largely to individual ability of ewes to suckle their lambs. The most prolific ewes are invariably the ones to show evidence of low flesh on account of their disposition to convert food into nourishment for their young. These ewes, although lacking in fine appearance and thin in flesh, are the most profitable and valuable members of the flock and deserve the best of care preparatory for mating. It is a common practice among flock owners to look upon thin ewes as unprofitable and unhealthy, but this is not true with ewes that possess a strong tendency toward milk production. Some ewes naturally appear thin in flesh, but with breeding stock this is rather to be looked upon as a desirable characteristic.

To give each individual in the flock the best possible opportunity to recruit rapidly preparatory for mating care should be exercised to sort the thin ewes from the better fleshed ones and put them on a pasture where they can be given additional attention. Where a large number of ewes are run together the less aggressive ones are very apt to be crowded out and impaired for the next year's usefulness.

Abundance of highly palatable and nutritive pasture in the fall is the most practical and economic means of preparing the ewes for mating. Good pasture at this season of the year is, of course, hard to obtain, unless forethought has been exercised to have some form of forage growing specially for this purpose. Thin ewes recruit very rapidly on good pasture, much more so than when fed large quantities of grain. Pasture is also the most natural means of preparing ewes for mating as it opens the system and promotes physical activity of all parts of the body. I have invariably had better success with ewes at breeding time when recruited on second growth clover pasture than when confined to poor pasture and fed a grain ration. Where conditions are favorable I would much rather recruit ewes on good pasture without grain than attempt to supply a grain ration to supplement pasture growth.

Flock owners are not all so situated that they can manage their flocks as they would like, therefore must make the best of the conditions as they are found. Where plenty of good pasture is not at hand a grain ration of one-third each of old corn, oats and wheat bran is excellent. It is not advisable to feed heavily on corn at this time and especially new corn. Oats are a very excellent feed for ewes at this time and can be fed quite freely without any danger. When oil-cake can be purchased at a reasonable price I like to feed a little of this, but I don't think it profitable to pay over a fair price for it. With oats and corn grown on the farm and wheat bran at a reasonable price I consider this about as economic and practical a grain ration as flock owners can feed at this season of the year.

Shiawassee Co. LEO C. REYNOLDS.

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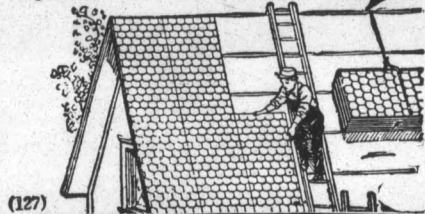
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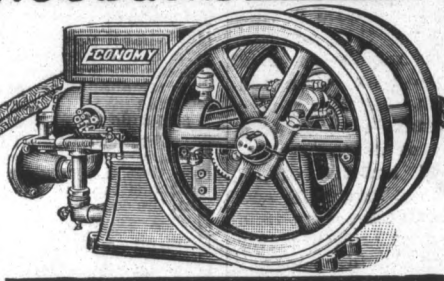
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## Dairy.

CONDUCTED BY COLON C. LILLIE.

### DOES CORN SILAGE INJURE DAIRY COWS?

It is the rumor in this neighborhood that a dairy cow should not be fed corn silage over four successive years. Is that true, and if so, what effect does it have? Gratiot Co. D. S.

One is amazingly surprised in this day and age of the world to get an inquiry like this. After silos have been so generally used in the state of Michigan for 20 to 25 years and cows have been fed during the whole of their lives on corn silage and not injured, and since no one can ever prove that a cow was injured by eating good corn silage, and then to have a question like this to answer, it seems very strange. The direct answer to the question would be, that good corn silage does not injure any animal. You can feed cows year after year on corn silage and it is a benefit to them, rather than an injury. Young calves will eat corn silage as soon as they will eat hay, and you can give the calf all the silage it will eat up clean, if it is good silage, and keep it on silage during its natural life and it will not be injured by it. This has been proved time and time again. For instance, Mr. Deitrich, of Pennsylvania, had no pasture for his cows or his calves. The calves were kept in roomy box stalls and then finally when they got older just simply given an exercise yard, and they were fed silage every day of their lives. They never went out to pasture. Of course, they were fed other foods. They were fed good clover hay and other roughage and some grain in connection with the silage. The silage should never constitute the whole ration. A man makes a great mistake if he attempts to feed the silage alone as a ration. It is not a balanced food. A man might as well try to live on potatoes alone as to feed cattle on corn silage alone. It would not be profitable. It isn't a profitable ration, and consequently the cows would be injured by it if you attempted to feed nothing but the corn silage.

To go back again to the calves of Mr. Deitrich: They were fed corn silage when calves, when young growing stock, and after they became cows, in fact, fed it during every year of their natural lives, and there never was any more healthy, vigorous young animals than these. This simply proves that corn silage does not injure an animal. In my own experience our calves always got corn silage as soon as they will eat anything and they are fed corn silage from then till I am through with them, and they live as long as anybody's dairy cows, and we never had one injured yet from this cause. Don't be afraid of corn silage, but don't attempt to make this the sole ration. That won't do. Not because it is corn silage, it is because it is not a balanced ration. You can't afford to do it and the cows would not do well upon it. Some people made a mistake years ago when the silos first came in vogue, in putting real green corn into the silo and then feeding young cattle, for instance, nothing but corn silage. Now it didn't give satisfactory results and the animals didn't do well, but it was the mistake of the feeder, and not the fault of the silage.

### DAIRY NOTES.

Protect cows from sudden changes in weather. All animals feel the effects of sudden changes in weather just as much as humans do. If the weather has been warm and then the temperature drops several degrees animals become real sensitive to the change. We make ourselves comfortable by building a fire in the furnace, or in the fireplace, and we enjoy it. Cows giving milk are more susceptible to changes in weather than other animals. I don't think there is any doubt about this. And since a cow giving a good flow of milk is affected by adverse weather conditions, we ought to take special pains to protect them. When the weather changes from summer to fall, cows that have been running in pasture night and day, ought to be fed in the barn at night. When the nights get chilly cows are not comfortable if they have to lie outdoors. Some days we have extremely cold winds. The cows are af-

fectured by these winds, and it is better not to turn them out very much when there is a cold, disagreeable wind blowing, especially is this so if the pasture is a little short and they don't get much food out of it.

Then again, when cows are kept in the barn at night, on the warm nights the doors and windows ought to be opened to give a circulation of air and keep the temperature down as low as possible, and when the weather changes the doors and windows ought to be closed, or be partially closed.

Cows giving milk are very susceptible to strong draughts, and if the barn door is left open on warm nights it is more comfortable, but when the weather changes and it is cold, especially if there is a cold wind blowing, cows are affected by this cold wind. Just recently in my own herd I noticed very plainly this effect. The weather had changed during the night and a cold wind from the southeast was blowing into the south doors of the stable, which had been kept open night after night to make it more comfortable for the cows. Now here was a sudden change, and a new milch cow giving a good flow of milk had to lie in this draught. Now in the morning when I milked her she would actually shiver. She didn't give as much milk. I went and got a horse blanket and placed it over her and after a short time the shivering ceased. It was nothing more or less than the weather and the sudden change in the weather. Now if the barn door had been closed so that this wind would not have blown directly onto the cow this would not have occurred, and the trouble of doing this would have been amply repaid in keeping up the flow of milk, but I simply cite this to show that the dairyman ought to have a watchful eye for sudden changes and not allow his cows to be unduly exposed if he can possibly prevent it.

### Expensive to Grow New Forage Crops.

We know more about new forage crops like cowpeas and soy beans, and that sort of thing after we have grown them a year or two, but it is expensive to grow these crops in an experimental way. One doesn't feel like putting in a whole field to soy beans when he had no experience in growing them. He doesn't know the nature of the plant. He doesn't know how to plant them or how to care for them, and he doesn't know how to harvest them properly.

Soy beans, for instance, that I have been experimenting with for the last two or three years were difficult to harvest. Of course, they can be mowed with a mowre and raked up with a hay rake and made into hay. But we are not used to making this crop into hay. We do it in an experimental way. We don't raise enough of such crops so that we can get at it and do it economically, and it costs money where one has to pay for every hour of labor. With me soy beans have not as yet ripened well. I will admit that I didn't get them in so very early in the spring, but they have not produced ripe seed and the only use that can be made of them is to use them as a forage crop, either make them into hay or put them into the silo with corn. We have practiced putting them into the silo with corn. Soy beans are an intertillage crop and one doesn't like to run a nice sharp mowing machine in the soy beans because he dulls the knives. And when he comes to rake them up the rake gathers up considerable dirt and dust from the field because it is not a sod ground, and it doesn't look just right. This year I am going to try pulling soy beans with a bean puller and handling them in that way. The bean puller will put two rows together and I believe they can be pitched on. Of course, there will be some dirt that will adhere to the roots, but unless the ground gets wet the most of this will come off and I don't believe that we will get any more dirt on the soy beans in this way than we will to mow them and let them fall on the ground and rake them up with a horse rake.

### A Silo Book Free.

Recently, the Southern Cypress Manufacturers' Association, Room 110 Hibernia Bank Building, New Orleans, La., has put out a silo book that comes under this heading—it illustrates the point that many free things have merit. This book probably was intended to advertise cypress lumber and shingles, but one would scarcely recognize in it anything that reads like advertising. This book of 112 pages is filled with the best and latest information regarding silos, both practical and scientific, and it is free to any reader of this paper who cares to send for it. In writing our advertisers it is always desirable to mention this paper.



## REASONS WHY DAIRYING IS PROFITABLE BUSINESS.

With the development of the dairy industry in every community has come more productive farms, greater profit to the promoters, and a general improvement to modern farming. It is the one phase of agriculture upon which the most dependence can be placed, its practice often meaning success when otherwise failure would be inevitable. For this reason every farmer should give it careful study and plan his work so that each branch of farming can be developed to the extent to which it deserves.

In the first place, a dairy herd, when kept under favorable conditions provides a profitable market for farm produced feeds. While it is perhaps an indirect sale for hay, corn, grain and other feeds grown on the farm it is a certain one and does away with the expense and worry of direct marketing, besides keeping a large part of the farm's fertility.

For example, a crop of hay or corn is produced. Suppose there are 50 tons of hay, 500 bushels of corn and a quantity of corn fodder, oats and straw. Instead of selling the hay at perhaps \$12 a ton, which would amount to \$600, the corn at 50 cents a bushel, which would come to \$250, and the other feeds at market prices, it is sold or fed to the dairy stock. It is changed into dairy products, milk, butter, cheese or live stock, and these products disposed of at much more remunerative prices than could have been obtained for the feed.

When the feed is sold everything is gone. The price received represents all that is coming to the producer, the farm is being exhausted of fertility, and becoming each year less productive. On the other hand, when it is sold to a dairy herd, only a few pounds of plant food material in the form of butter or milk as the case may be, leave the farm. The great bulk of the fertility is returned to the land in the manure. By proper planning in supplementing this with commercial fertilizers, the original productivity of the farm is maintained and increased from year to year. Inferior crop yields will be uncommon and the account at the bank will be in a more flourishing condition.

A dairy properly managed brings in a steady income throughout the year. This is hardly possible with any other branch of farming. With potatoes, cabbages, gardens and other crops, several months must elapse before the crops are ready for market. When the income can be equally divided so that a proportionate amount is received each month, as is possible with a dairy, the financial part of the farm will be much more satisfactory. With a steady income bills may be paid when goods are bought and one can figure more closely.

Greater dependence can be placed upon the probable receipts. The demand for dairy products generally is greater and more steady than with other crops. When yearly contracts are made for the butter and milk, all worry and risk of marketing is overcome. Even when a creamery is patronized the market is reasonably reliable and profitable.

The farmer takes less risk with his dairy than with his other crops. He may have a most excellent crop of potatoes, or cabbage, and not be able to sell a bushel or a pound at a price which would pay him for his work. He not only takes great chances with the weather, but with uncertain, unreliable markets. He does not experience this trouble with his butter or milk. Often the demand is greater than the production and the market price proportionately remunerative.

The increase yearly is no small item to be considered. When the skim-milk is fed to calves or hogs here is a side line that is growing into money. With an increasing dairy herd ready money may be scarce at times on account of the payment of running expenses, but the young stock is becoming worth more each day. More property is being acquired and usually one does not realize the profit he actually is making. Often a farmer starts in with a few cows, raises the calves and in a few years has a herd worth hundreds of dollars. Little by little the stock has accumulated until it represents a value of no small proportion.

Other advantages of dairying might be mentioned, but it is not necessary. Farmers gradually are beginning to appreciate its value and importance. Modern methods are being studied and put into practice. The success of a dairy generally can be measured by the extent to which this is done.

L. J. HAYNES.



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DETROIT, OCT 18, 1913.

## CURRENT COMMENT.

**Michigan's Agricul-  
tural Prosperity.**

The material pros-  
perity of a state  
from an agricultur-  
al standpoint de-  
pends upon the total amount of agricul-  
tural products available for sale after  
supplying the home needs of the farms.  
The stability of the agricultural prosper-  
ity of a state depends upon the variety  
of agricultural products grown for sale.  
Where there are only one or two sources  
of cash revenue to depend upon, these  
are likely to fail from causes beyond hu-  
man control, with disastrous results so  
far as agricultural prosperity is con-  
cerned.

Michigan fortunately has a large vari-  
ety of agricultural products which are  
grown on a commercial scale. Our ag-  
riculture is as varied, if not more so,  
than that of any other state in the Un-  
ion, but with the great variety of prod-  
ucts which are grown on a commercial  
scale, it is rather remarkable that our  
state should stand at the top in the total  
production of so many of them.

Michigan will this year, for the first  
time in its history, be first in the produc-  
tion of potatoes, if the figures given in  
the September crop report are verified  
by final estimates of this season's crop.  
According to these figures, which are  
given herewith, Michigan grows 9.5 per  
cent of the total acreage of potatoes  
grown in the United States, her crop  
showing an average condition on October  
1 of 69 per cent of normal. Only one  
state has a larger percentage of total  
acreage and that is New York which has  
10.1 per cent, but the average condition  
of her crop is but 59 per cent of normal  
as estimated in the October report. This  
would, by comparison, make the total  
yield of potatoes in Michigan greater than  
that in New York, which was the only  
state which exceeded our total produc-  
tion last year. By the same methods of  
comparison, we find from the crop esti-  
mates given in October report that no  
other state will reach Michigan's total  
production of potatoes this year.

Thus Michigan will be first in the to-  
tal production of potatoes, which means  
that Michigan farmers will have more  
potatoes to sell this year than the farm-  
ers of any other state. Last year Mich-  
igan's potato crop approximated 37,000,000  
bushels. With the high price which will  
result from a comparative short crop this  
year the cash income to Michigan farm-  
ers from this source will be large.

Michigan is also first in the production  
of beans, the production of this staple  
cash crop being above six million bush-  
els for the state, as compared with some-  
thing like three million bushels for New  
York, her closest competitor, and about  
one million bushels for California, which  
is third on the list. Michigan is also first  
in other lines of production of less im-  
portance, including such a staple crop as  
rye, and a number of minor crops such  
as chickory, celery, and peppermint oil.

She is also a good second in many oth-  
er lines of production. In the matter of  
sugar beets, for instance, she will prob-  
ably displace California for second place  
this season, having been such a close

competitor in former years as to make  
the honors doubtful.

In the matter of fruit production, Mich-  
igan is well up to the top. Michigan is  
also becoming a great dairying state,  
while her stock feeding industry has be-  
come a highly developed specialty in many  
sections.

As a grain producing state, Michigan  
is not as prominent as in her pioneer  
days, but the production of grain is not  
a small factor, as will be seen from the  
crop report published in this issue.

It is a matter for congratulation that  
Michigan's agriculture remains prosper-  
ous at a time when many other states  
have been handicapped by unfavorable  
conditions. Surely Michigan farmers may  
well compare their opportunities with  
those of the farmers of other states, and  
in every case where this is done there  
will be an undoubted inclination to sing  
the praises of "Michigan My Michigan."

**Cause and Prevention  
of Fires.**

Some interesting  
figures have been  
compiled upon the  
returns of 14 in-  
surance companies in Massachusetts for  
the five years including and just preced-  
ing 1905. These reports cover a total  
of 1,428 fires, and aggregate a loss of  
\$392,087.79. Of contributory causes, light-  
ning heads the list for the number of  
fires, viz., 405, although the aggregate  
loss is less than from some other causes,  
being but \$44,563.32. The next in im-  
portance of known causes is of a largely  
preventable nature, including chimneys  
and defective flues, which caused 273 of  
the above number of fires, with an ag-  
gregate loss of \$53,972.45. Next comes  
incendiaryism with 99 fires and an ag-  
gregate loss of \$53,972.45, while oil stoves,  
lamps and lanterns follow closely with 95  
fires, and an aggregate loss of \$91,638.71.  
Stoves and furnaces with defective pipes,  
etc., caused 52 fires with an aggregate  
loss of \$10,325.25. The combination of  
children and matches caused 24 fires and  
an aggregate loss of \$4,278.56. Smoking  
about buildings caused 14 fires, with an  
aggregate loss of \$2,329.22. Other causes  
of fires which are wholly preventable  
were brush and bonfires, which caused 14  
fires, ashes in wooden receptacles which  
caused six fires. The use of fires in out-  
side appliances, as portable boilers and  
brooders, caused a like number of fires,  
while rats and matches were also given  
credit for six fires. Out of this total  
number, fires causing an aggregate loss  
of \$147,439.04, were attributed to unknown  
causes.

It will thus be seen that a very consid-  
erable proportion of the element of dan-  
ger of fire could be eliminated by proper  
precaution on the part of the property  
owner, while the loss by fire could be  
further reduced to a minimum by the  
precaution of having at hand simple ap-  
paratus for fighting fire, such as barrels  
and buckets of water at points in build-  
ings, to be used for no other purpose, the  
water being replenished from time to  
time, and ladders should be placed at  
different points to be used only in cases  
of emergency and, perhaps as an added  
precaution, the use of a good chemical  
extinguisher which should be conveni-  
ently placed for use in an emergency. Too  
much precaution cannot be taken to  
avoid danger and loss from fire, and this  
is the proper season of the year to think  
about such precautionary measures. The  
season of danger from lightning is prac-  
tically over, but the real danger is in-  
creased by the coming of cold weather  
when the house must be artificially heat-  
ed and when with the advent of short  
days artificial light is necessary for a  
longer period of time.

**Migratory Bird  
Protection.**

On November 1 the reg-  
ulations established for  
the protection of migra-  
tory birds in the United  
States will go into effect. This is the date  
set for the operation of the proclamation  
of the President, issued by authority of  
a recent act of Congress. The regula-  
tions have been carefully worked out  
through the Department of Agriculture,  
and will for the first time place a large  
number of migratory and insectivorous  
birds under federal protection, thus plac-  
ing federal restrictions on some five mil-  
lion habitual hunters in the United States.

In the enforcement of these regulations  
the federal authorities will co-operate  
with the state game wardens in carrying  
out the provisions of the law. The fed-  
eral authorities also hope to have the  
support and assistance of the public and  
of public spirited sportsmen in making  
the new law a success.

Among the birds protected by the reg-  
ulations are the brant, wild duck, goose,

swan, cranes of various species, rail, sev-  
eral kinds of shore birds, pigeon, dove,  
wild pigeon, bobolink, catbird, chickadee,  
cuckoo, flicker, flycatcher, grosbeak, hum-  
ming bird, kinglet, martin, meadow lark,  
night hawk, nuthatches, oriole, robin,  
shrike, swallow, swift, thrush warbler,  
whippoorwill, woodpecker, and wren.

The regulations for the enforcement of  
the law divide the country into two  
zones, as follows: The breeding zone  
comprises 25 states lying wholly or in  
part north of latitude 40 degrees and the  
Ohio river. The wintering zone com-  
prises 23 states and the District of Col-  
umbia, lying wholly or in part south of  
the above mentioned line. A perpetual  
closed season is put in force on all mi-  
gratory birds on the waters and main  
streams of the Mississippi and Missouri  
rivers.

Spring shooting of migratory water  
fowl is eliminated by these regulations.  
The general open season for water fowl  
in the northern zone is from September  
1 to November 16. On rails, coots and  
gallinules, from September 1 to Decem-  
ber 1. In Michigan the open season on  
these birds is from September 16 to De-  
cember 1. On woodcock the open season  
in the northern zone is October and No-  
vember. The open season for shore birds  
is from September 1 to December 16.  
All shore birds except black-breasted and  
golden-plover, wilson, or jacksnipe, and  
yellowleg, are protected until September  
1, 1918. A closed season is also estab-  
lished on wood duck in a number of  
states, including Michigan, until the same  
date.

The regulations prohibit hunting of all  
migratory game and insectivorous birds  
from sunset to sunrise and establish a  
perpetual closed season on the catbird,  
chickadee, grosbeak, humming bird, mar-  
tin, meadow lark, bullbat, robin, swallow,  
thrush, whippoorwill, and woodpecker.

The establishing of federal regulations,  
relating to the protection of migratory  
birds is an important step, particularly in  
the conservation in our insectivorous  
birds of economic value to agriculture. It  
will also simplify the problem of state  
legislation relating to the protection of  
migratory game birds. The elimination of  
spring shooting is undoubtedly a move in  
the right direction and one which will  
command the approbation of all true  
sportsmen, as well as naturalists and  
economists. The difficulty in formulating  
state laws to this need has been the lack  
of uniformity in state legislation on this  
point. A difficulty which federal con-  
trol will eliminate. The inauguration of  
federal control in the protection of migra-  
tory birds is a matter for congratulation  
to the farmers of the country as well as  
to every lover of bird life.

**Our Crop Reporting  
Services.**

Having become con-  
vinced from trying  
the plan on a small  
scale that direct in-  
formation from farmers in various parts  
of the country regarding crop and mar-  
ket conditions was of great value to  
Michigan farmers, we have recently ex-  
tended that service in our paper. This  
service not only gives the reader a good  
idea of general conditions in other agri-  
cultural states besides Michigan; but also  
gives him an idea of probable future mar-  
ket conditions.

In addition, it enables us to keep in  
closer touch with the market conditions  
throughout the country, and check up all  
estimates of crop production in an effec-  
tive manner. In illustration of this point  
we will refer to an error in the official  
copy of the October crop report relating  
to Wisconsin's potato crop, which was  
given as 49 per cent of normal for that  
season of the year. The September fig-  
ure for the crop was 83 per cent of nor-  
mal, and our advices direct from Wiscon-  
sin farmers indicated that there had been  
plenty of rain in that state and that the  
potato crop was good, while the official  
report on the corn crop indicated that  
there had been no destructive frost which  
would materially injure the potato crop.  
Thus it seemed certain that an error had  
been made in transcribing the figures for  
Wisconsin's potato crop. In footing up  
the averages this was also apparent,  
hence we concluded to wire the Depart-  
ment of Agriculture, calling attention to  
the apparent error. In reply we received  
the following wire: "Corrected figures  
for Wisconsin Potatoes 79."

This instance illustrates the value of a  
crop reporting service such as we have  
inaugurated in the Michigan Farmer. It  
enables the reader to follow more closely  
the crop conditions throughout the coun-  
try and enables us to keep a better check  
on these conditions and thus render him  
more valuable service by this means. We

bespeak for this crop reporting service  
a careful reading, inasmuch as it is care-  
fully collected and at no small expendi-  
ture of effort.

## HAPPENINGS OF THE WEEK.

A gang of professional bomb throwers  
have been arrested in New York City.  
There were eight members in the gang  
and they are alleged to have been terror-  
izing the city for several years past. The  
information leading to their arrest was  
obtained through confessions.

A collision between a trolley car and  
a New Haven east bound passenger train  
near Westfield, Conn., resulted in one  
fatality and ten other persons being ser-  
iously injured.

Three persons were lost and 14 others  
injured in a tornado which swept four  
counties in north central Nebraska Oct.  
9. A large amount of property was de-  
stroyed, but for warnings sent ahead of  
the approaching storm, the loss of life  
would undoubtedly have been much  
greater.

Fire destroyed a six-story milling plant  
at Kansas City, Mo., October 10. The  
loss is placed at \$600,000.

Timothy L. Woodruff, formerly Lieut.-  
governor of New York state, died last  
Sunday night, following a stroke of par-  
alysis two weeks previous.

Bishop Charles D. Williams, of the  
Episcopal Diocese of Michigan, in an ad-  
dress in New York expressed his belief  
in the possibility of a union of the Chris-  
tian churches of the United States. He  
illustrated the probable course of this  
change by an analogy between it and the  
history of the formation of our country  
from the original 13 colonies.

The world's base ball series, played be-  
tween the New York Giants of the Na-  
tional League and the Philadelphia Ath-  
letics, of the American League, resulted  
in a victory for the latter team, which  
won its fourth game and a victory, Sat-  
urday, October 11.

Waters of Gatun Lake were turned into  
the Panama Canal on the afternoon of  
October 10. The dyke that held back  
the water during the construction of the  
canal was blown out by dynamite, the  
charge being set off by President Wilson  
while seated in his office at Washington,  
D. C. A slide at Curcuracha has filled  
the canal for 600 feet and it is estimated  
by the engineers that it will require most  
of the time up to January 1 to remove  
this 2,000,000 square feet of earth.

On October 10 Yuan Shi-Kai was inau-  
gurated first president of the Chinese  
Republic. The ceremony of inauguration  
was performed amid great splendor and  
the customary eastern brilliancy. The  
affair took place at Pekin, in the interior  
of the Taiho Palace.

Affairs in Mexico have assumed a grave  
state. The Mexican Congress has been  
dissolved and 110 members of the Cham-  
ber of Deputies are under arrest, while  
Senator Dominguez, who on September  
22 delivered a speech before the legisla-  
ture denouncing the Huerta government,  
was found assassinated two days later.  
It is believed by the agents of Huerta. An  
election has been planned for on October  
26, but it appears that it will be impos-  
sible to so restore order as to hold the  
election on that date. It is not known at  
present if this change in affairs will af-  
fect the policy of the state department at  
Washington towards the Mexican situa-  
tion or not.

The ocean liner Voltunro perished in  
mid-ocean last Friday. The loss of life  
is now placed at 136 persons. Five hun-  
dred and twenty-one others were saved  
by life boats of ships brought to the ill-  
fated craft by wireless. Those lost were  
drowned as they attempted to board life  
boats in the heavy seas, the small boats  
being dashed to pieces against the sides  
of the steamer. The ship's hull, now  
floating in the path of trans-Atlantic  
liners, will remain a menace to naviga-  
tion.

STATEMENT OF THE OWNERSHIP,  
MANAGEMENT, ETC.,

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Known bondholders, mortgagees, and  
other security holders, holding one per  
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mortgages, or other securities:  
None.

EDGAR H. HOUGHTON, Secy.  
(Signature of editor, publisher, business  
manager, or owner).

Sworn to and subscribed before me this  
eighth day of October, 1913.

WM. VAN DYKE,  
Notary Public, Wayne County, Mich.  
(My commission expires August 7, 1914).  
(Seal).



# 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.

## Marble Quarrying in Vermont

By OREN E. CROOKER

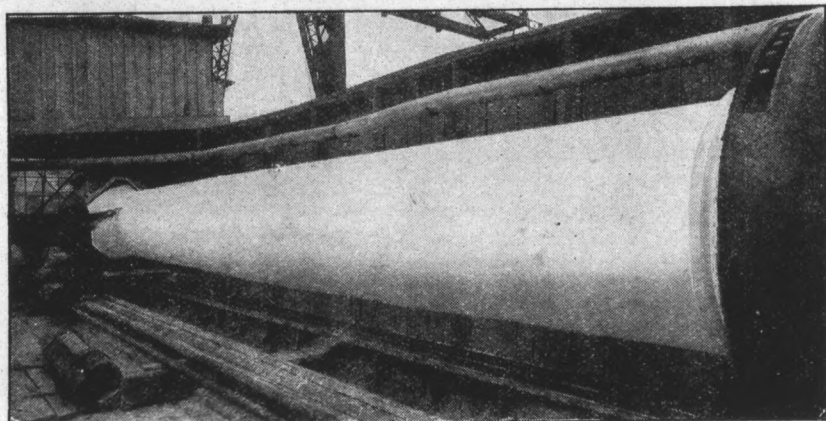
VERMONT marble is known throughout the world; in fact, not long ago a salesman representing one of the largest concerns handling this stone in the Green Mountain state circled the globe on one of his business trips. Yet, less than seventy years ago the farmers of the Otter Creek valley used to pasture their cows on land that could not now be purchased at any price, and as they did so they grumbled at the poor pasturage—for the outcropping of the marble deposits were so numerous in places as to render the land anything but desirable for dairy purposes.

At last, however, there came a day when a man who knew an opportunity when he saw it happened along. In his mind's eye he pictured the immense beds of marble which these outcroppings indicated. Today, at the same spot where the farmers grumbled at the poor pasturage one can look into the deepest marble quarry in the world where men, working four hundred feet below, appear no larger than pigmies and from whence millions of dollars in stone have been taken.

All up and down the course of Otter Creek, which in Revolutionary days was the thoroughfare for the Indian tribes which wished to strike into the interior southeast of Lake Champlain, marble in abundance is found. The greatest activity in quarrying, however, is at West Rutland, not far from the New York state line, and at Proctor a few miles north. This latter point is the acknowledged center of the marble industry of this country and is often spoken of as the Carrara of America.

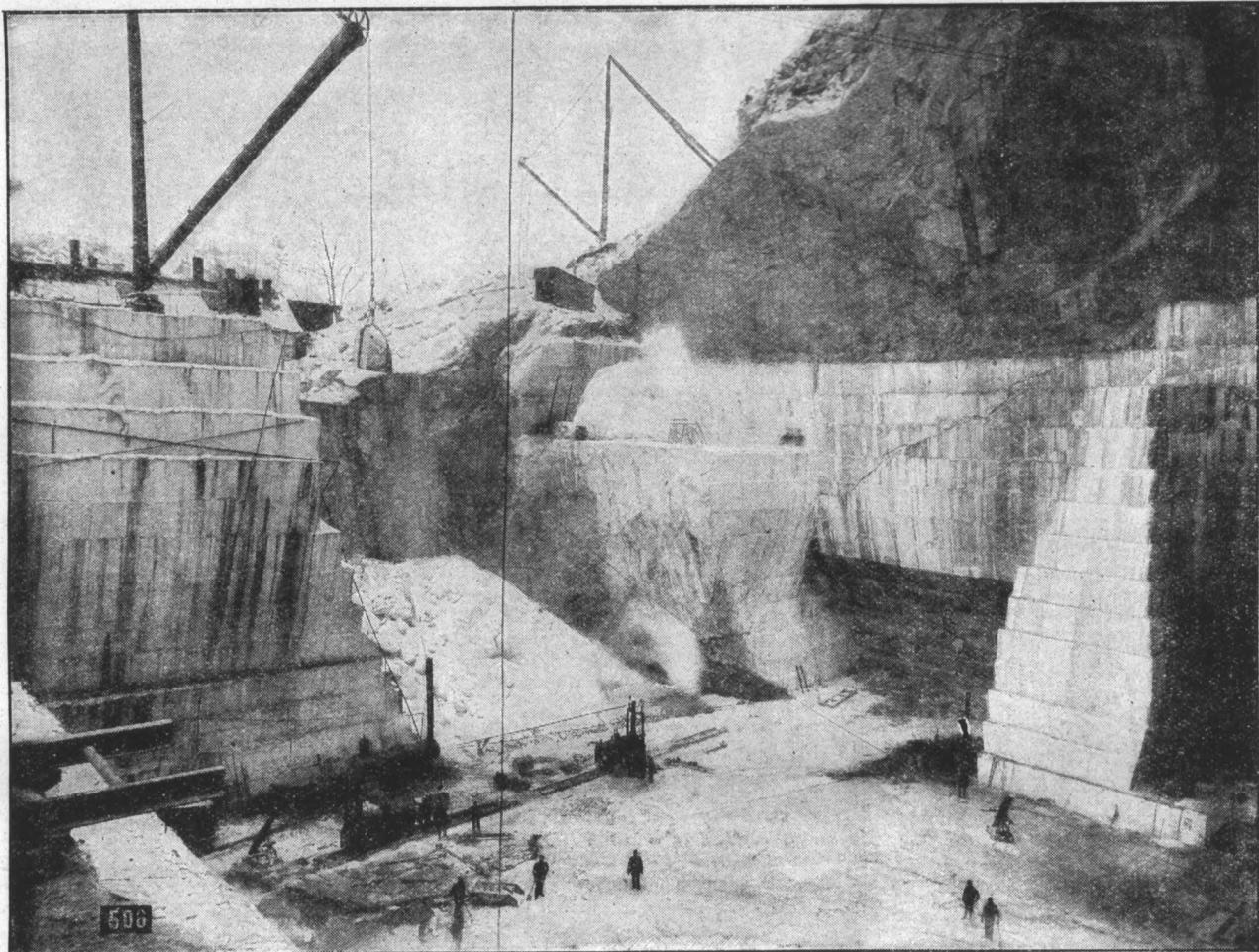
The quarrying of marble is an interesting process. Nowhere has the inventive genius of man worked greater wonders in the way of handling a product than in the means employed in taking the deposits of limestone, which nature has buried beneath the green hills of Vermont, and converting them into products that serve a thousand useful and ornamental purposes. The stone comes out of the quarry in great, unattractive, rectangular blocks weighing many tons; it leaves the finishing mills in a highly polished state that pleases the eye and appeals to the aesthetic taste. In the various stages of the work of bringing this to pass is utilized the technical skill of the engineer; the ability of the trained artisan; the artistic sense of the best Italian stone workers; the power of electricity and the results wrought by intricate machinery.

In visiting the deep quarries at West Rutland one must clamber down almost as many steps as are found in the Washington monument. Once at the bottom one finds the channeling machines pounding away in ceaseless din, cutting the rock into great slices. These machines run back and forth on rails, and, by means of drills driven downward into the stone with great force, a slit is cut to any desired depth and length. Electric drills are used to bore into the rock in a horizontal direction, and by means of wedges driven into the holes thus made the marble is detached from its bed and is ready to be lifted by powerful cranes

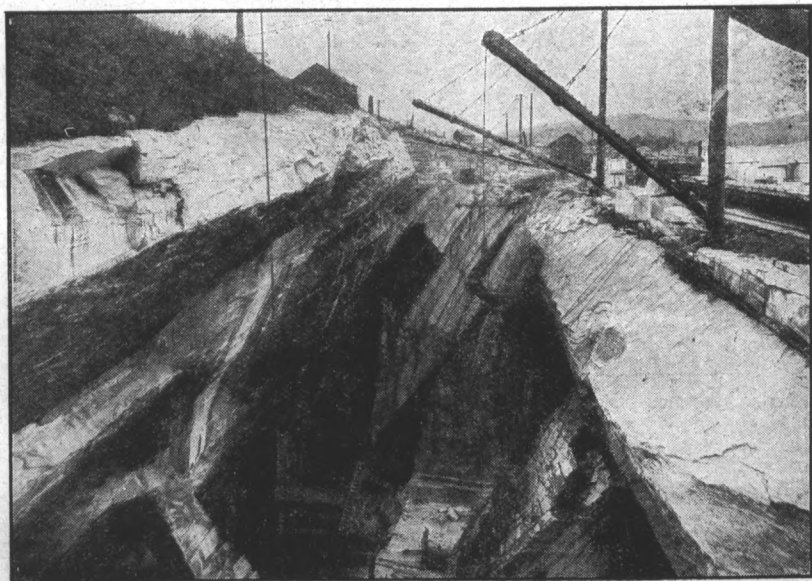


A Gigantic Marble Monolith Undergoing the Finishing Process.

In finishing large marble pillars the stone is mounted in an electric lathe and "turned" quite the same as though it were a piece of wood. The illustration shows one of the largest single marble monoliths ever made in this country.



Quarry Opening at Proctor, Vt. Steps on Quarry Wall show how Marble has been taken out Layer by Layer.



Surface Opening of the Deepest Marble Quarry in the World.

This quarry, situated at West Rutland, Vermont, is between three and four hundred feet deep. Tradition has it that the land upon which it is situated was so full of stone outcropping that the man who owned it about three quarters of a century ago traded it for a decrepit horse with which to leave the country.

to the surface, after which it goes to the mills to be sawed into blocks or slabs.

This, too, is an interesting operation in which sand, running water and a saw made of soft iron but without teeth are utilized. The rough block of marble is placed under a set of saws which are so adjusted that the whole stone is cut up at one time into slabs and blocks of varying thickness. By means of powerful machinery these saws are operated back and forth against the stone while a stream of water, containing sand in suspension, pours constantly over it. The sharp edges of the sand cut into the soft stone as the strip of iron works the small pieces of silicon back and forth against it. Many hours are required to cut through a block of stone in this way, but after four thousand years of marble working no better or speedier method seems in sight. This process is substantially the same that was used by the early Greeks with the exception that machine power has taken the place of hand power.

After the marble is sawed into slabs or blocks it goes to the finishing mills to be worked up into the specified sizes and to receive the polish with which all are familiar. No two patterns in the stone are

ever exactly the same and it is most fascinating to watch the huge buffers give the polish to the stone that brings out the hitherto hidden lines and tracings.

It is in the finishing shops at Proctor that one gains a true idea of the magnitude of the marble industry centering at this point. From the countless monuments and markers to be seen in all stages of completion it is easy to understand why Proctor has been called the greatest tombstone center in the world. Over 100,000 individual stones for the marking of graves were shipped from this point in 1911. One usually finds many large public monuments in process of finishing in the Proctor shops. And it is not unlikely that some special order of significance will attract one's attention in this department.

One of the most interesting things of this kind within the past few years was the finishing of the huge columns which now adorn the facade of a building recently completed in Independence Square, Philadelphia. Each of the fourteen pillars is approximately thirty feet long and three feet eight inches in diameter and weighed thirty tons when finished and ready for shipment. They are the larg-



## \$80 an acre net from peanuts via pork!



An acre of peanuts will produce three times as much pork as an acre of corn. Yet peanuts are raised by the same methods of tillage as corn, and instead of depleting the soil, as corn does, they enrich it.

At the Arkansas experiment station an acre of peanuts made 1,250 lbs. of gain on hogs, while an acre of corn made only 436 lbs. And 1,250 lbs. is not an extra good showing. Mr. Wright of Lufkin, Texas pastures his hogs on peanuts and makes 1500 to 1800 lbs. of pork per acre! Along the

### Cotton Belt Route in Arkansas and Texas

peanuts alone pay big. J. M. Jones, a farmer who lives 8 miles from Jonesboro, Ark., sold \$953.32 worth of Spanish peanuts and peanut hay from 10 acres. Land that will yield big peanut crops can be bought now at \$25 to \$30 per acre. Peanuts is just one of the money making crops of Arkansas and Texas. When you get fine land at \$15 to \$30 per acre; when you have a mild short winter and don't have to stall feed stock; when you get all the rain that any crop needs (40 to 50 inches), you'll make big money, no matter what you raise. With good roads, good schools, close markets, phones, rural delivery, churches, etc., you don't have to sacrifice any social advantage in Arkansas and East Texas.

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Low Fare Excursions via  
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I will cut your name neatly on Brass (one inch letters) and send to any address, postpaid, on receipt of 25 cents, if more than 10 letters in name 2 cents for each letter extra. Send all orders to **A. H. BRAUNLICH, Ida, Mich.**

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est marble monoliths ever made in this country. They were finished on an electric lathe built especially for the purpose, being handled in much the same way that a wooden pillar is "turned" on a wood lathe.

Much of the finer detail work in the finishing department of a marble concern is done by hand, skilled marble workers from Italy being employed in many cases. Some of the best workmen of this kind are mere boys, and it is often difficult to say whether one of these lads, or the grey-haired man working beside him, is most adept.

Not all marble is suitable for structural or ornamental purposes. There are marbles—and marbles! Rutland county has all kinds—some so coarse and granular as to be of little use for anything but building purposes, while some is so fine grained as to crumble at the least pressure. Marble comes in all colors, due to the carbonaceous matter derived from the minute forms of sea life that are responsible for the formation of these beds of limestone. At West Rutland many of the different colors are found side by side in layers—pure white, mottled green, grey, greyish white and various other tints.

## In Default of Appearance.

By HOWARD C. KEGLEY

The trouble started when Ike Middleton threatened to wallop Jerry Maxwell because Maxwell had bruised the Middleton dog with a brick. Maxwell went before Justice Poindexter and swore out a warrant, charging Middleton with disturbing the peace. The town marshal went down to Middleton's to arrest Ike, but when he got there Ike couldn't be found. The marshal asked the neighbors what had become of Middleton and they told him to go and look in the Middleton well. In the Middleton well was Ike Middleton. There he was seeking refuge from the police.

The town marshal begged, suggested and then demanded that Middleton come to the surface and be arrested, but Middleton refused, and for several hours he successfully defied the marshal and his two deputies, but finally the officers secured a block and tackle and, by lassoing the obstreperous refugee, they hauled him to the surface and dragged him to the "cooler," which was the official name of the town jail.

As soon as it became known that Middleton had been brought to the surface Jerry Maxwell was for dismissing the charge of "disturbing the peace," and lodging the more serious charge of "resisting arrest" against the prisoner. Accordingly the first warrant was destroyed and another sworn out.

It was a case in which the whole town was interested. Judge Ripley, of course, had to represent the people, because he held the responsible position of city attorney, and the matter of defending Middleton was left to Attorney Caleb Walters who had practiced law but a short time.

When Judge Ripley learned that there was a case on the docket he was hilarious. The judge was the prize lawyer of them all. He had formerly been on the circuit bench, but at the time the Middleton case came up he was living in semi-retirement. He tried a case for the town once or twice a year and dabbled in private practice once in a while for the fun of the thing. He was not compelled to make his living by the law profession, be it understood, and as a consequence he was always agreeable to tackle a job that looked as interesting as the prospect of prosecuting Ike Middleton.

As a matter of fact, Judge Ripley had won several dozens of cases from Attorney Walters and he hankered to get at the young attorney again. Be it likewise known that Walters feared Ripley and dreaded to take a case when Ripley had the other side of it. Ripley usually won his cases from Walters on fine points of law that the young attorney had not yet learned, and each defeat was accompanied by a roasting from the venerable judge who took delight in poking fun at the somewhat timid and inexperienced disciple of Blackstone.

"I'll set this case for trial at 10:30 Tuesday forenoon," said Justice Poindexter. "Attorney Caleb Walters will appear for the defense and Judge Ripley will represent the people of the town."

Judge Ripley strode out and went to his office. During the next few days he did not bother his head with the Middleton case. He made it a point never to try a case until he got to it.

Not so with Walters, however. He went to his office, hauled down the code and started to read. He got all the information he could find that had any bearing on the case, and then he interviewed the prisoner six or seven times.

"I hate to go into court with this case," he exclaimed on the morning of the day before the trial, "because Ripley will be on hand to make himself disagreeable again. He will haul me around over the coals until he gets me muddled up in regard to the facts, and then he'll

run in some new point of law, succeed in making that dunderhead of a justice believe it, and I'll lose the case as sure as you are a foot high."

On Tuesday morning Walters reached his office bright and early. He marked eight or ten reference books, hunted up a lot of complicated sections of the code, worked himself into a red-hot frenzy over the Middleton case, and then sat down and awaited the appointed hour.

Over in Judge Ripley's office all was serene. The judge blew big rings of black smoke from a heavy cigar, chuckled to himself over the prospect of flaying the young attorney, and paid little attention to the time of day.

Shortly after ten o'clock Walters gathered up his law books and journeyed down the street to Justice Poindexter's office. He thought that by getting there early he would have a chance to get over his uneasiness before the case was called to trial.

Once or twice Judge Ripley glanced at his watch, absentmindedly, but it only said nine o'clock, and he lolled back in his easy chair and lit a fresh cigar.

Walters glanced at his watch, after he had been waiting for some time, and he noticed that it was nearly 10:30. He arose and moved around the court room uneasily.

Judge Ripley indulged in a short nap and when he awoke he looked at his watch. It was exactly 9:30. He arose, went out on the street, bathed himself in sunshine for a few minutes, and then started up the street in the direction of Justice Poindexter's office.

"The case of the town of Jayville against Ike Middleton was set for 10:30 o'clock on Tuesday morning, and that hour has arrived," remarked Walters, addressing the justice. "The prosecuting attorney is in default of appearance, and, if it please the court, we pray that the case be dismissed on account of default."

Justice Poindexter, who had the open docket before him, was making an entry in the book while Walters was speaking.

A moment later the door opened and Judge Ripley walked in.

"Well, I see the attorney for the defense is on hand," remarked the judge, "and we might as well proceed to try the case of the town of Jayville vs. Ike Middleton, hadn't we?"

"That case," remarked Justice Poindexter with an air of unconcern, "has gone by default, because you were not here at 10:30 o'clock."

"Is that so?" mused Judge Ripley. "What time have you now?"

Justice Poindexter and Attorney Walters produced their watches. The hands of both timepieces had gone past the half-way marks between the tens and elevens.

Judge Ripley then pulled out his watch and looked at it. The minute hand indicated 9:30 o'clock. The judge didn't say a single word. He just turned on his heel, sauntered out and went up the street, twisting the stem of the watch that he had neglected to wind the night before.

"De man dat don't trust anybody," said Uncle Eben, "is mighty liable to figure out moral responsibilities in a way dat'll prevent anybody f'um trustin' him."

"What has become of the big man who used to beat the bass drum?" asked the private of the drum-major.

"He left us about three months ago."

"Good drummer, too, wasn't he?"

"Yes, very good; but he got so fat that when he marched he couldn't hit the drum in the middle."

### THE WEATHER CROAKER.

BY CHARLOTTE BIRD.

Now has come that season of the year when the dolorous voice of the weather croaker is heard in the land. Regularly every autumn, as regularly as the birds migrate to a more genial climate, he raises his voice in the hearing of whoever cares to listen. Frequently he gets himself in the newspapers and so enjoys the enlarged audience. It makes no difference whatever how the results of his previous forecasts have turned out, again with each season we tremble before his warnings of evil. He himself has forgotten, and nobody else a year afterwards reminds us of what that old Mr. Jones prophesied last fall, and how lovely after all the winter turned out to be.

Often the weather croaker is the "oldest inhabitant," in fact, this is usually the case. He has discovered nature's deep secrets, he feels, as none of the younger generations can hope to understand them. He has been taught by the squirrels and the beavers which, this year, are building their nests a good month in advance of the regular time; this, he declares, is an unfailing harbinger of an early, long winter; they are building them thick, which is a sure sign that the winter will be cold and bitter. These findings are supported by the revelations of the breastbone of the Thanksgiving turkey, which this year is solid bone instead of being half gristle. And so on.

These signs, he assures you with a wise wag of his head, rarely or never fail. Ah, he knows a lot more about the weather probabilities than any of those half-baked weather bureau observers, and he is not too modest to intimate as much to you.

Now the most sensible minded of us stand in greater or less awe of this wizard of weather foresight. When with an air of conviction the seasoned weather croaker assures us that "judging from all signs the approaching winter is going to be long and cruel," we feel a shiver of fearsome anticipation travel up and down our spines. A lively imagination immediately calls up a state of affairs which wood and coal will hardly be adequate to relieve. We think of flower beds, fruit trees and grain fields destroyed, and of the weary time before they can be restored; our thoughts dwell pityingly on the poor, and our own physical discomfort is not forgotten.

Very likely the weather croaker has not intended to create all this mental disturbance; nevertheless, he has done it and is far from regretting the importance which he has thereby acquired. And, if he so disturbs the mature and seasoned, what about his influence on the young and inexperienced? Happily, their fresh, wholesome outlook on life in some measure saves them. Yet the influence of the weather croaker remains not good but bad, for why should we be induced to run ahead to meet any unpleasantness?

We should none of us take the weather croaker too seriously but use our God-given penetration and value his forecasts for just what they are worth. If in a mournful tone he foretells frost for September, it is an altogether safe prediction; September is the month for frosts. If he assures us that it will be cold in October, that also is the month in which we may expect winter's first knock at our doors. Nevertheless, winter often glowers at us in October only to repent and hide his face all through November.

Very often the weather croaker is not a person of great influence in any other fields. Perhaps in his young and middle years he has never had any great standing as to his opinions. The really important person has other things to think and talk about. To an insignificant life mere added years cannot lend the weight of real dignity. So why should we allow a person of this character for one moment to overshadow our peace and contentment, whatever he may choose to say on any subject? His faith in this world's beauty and goodness has been blunted; his anticipation of good things still to come, chilled. To him a beautiful day is just a weather-breeder.

When we come down to the bottom of things, this is merely his method of winning attention, appreciation. His weather prophecies are but his obvious, yet perhaps unconscious, striving to save himself from being laid irretrievably on the dreaded shelf. So we may look kindly upon his foibles and treat him generously. But let us not allow him to steal from us one blessed moment of life's sweet joy and beauty.



## An Earnest Invitation.

By ALICE A. LARKIN.



If there's anybody looking  
For a chance to go to ride  
With a team both safe and gentle,  
And a driver true and tried,  
We will gladly give them welcome,  
And we'll take them anywhere;  
We will charge but very little,  
So don't bother 'bout the fare.  
If you haven't any money,  
I expect an apple tart  
Would enable you to travel  
In our big and roomy cart.

If your work is not too pressing,  
We will take you to the brook,  
Where you'll have a chance for fishing  
With a pole and line and hook.  
We might have a little picnic,  
So perhaps you'd better bring  
Cake or pie or even cookies,  
Apples, nuts or anything.  
If you think you'd really like it,  
Then I guess we'd better start;  
We will have a jolly outing  
In our big and roomy cart.

### THE FIRST SPEECH.

BY EARLE W. GAGE.

"Hurrah!" cried William Lawrence, rushing into the house like a hurricane. "I'm on the affirmative. The boys are all as mad as March hares about it, I can tell you."

"Why, what for?" said Rose, coolly, as she continued to paste her scrap-book.

"What for!" echoed William, with a look of an older brother who pities a sister's ignorance; "why, to think I'm put on the question instead of one of the rest. There hasn't a boy in our class spoken in the Lyceum yet," added he jerking his sister's elbow by way of pointing the remark. "I suppose that you know that, don't you?"

"I know you don't talk grammar," returned Rose, "and I know you have made me drop a great blot of paste on my book. See here!"

"Well, don't fuss. Just reach the big dictionary, won't you? I'm going to read up from the foundation of the world down to the battle of Island Number Ten. Where's Plutarch's Lives?"

"Do tell me, have you got to speak on ancient history?" said Rose, looking up.

"Of course not, child. Question reads, 'Resolved, that the fear of punishment has a better effect on mankind than the hope of reward.' I argue that it has. I think exactly the reverse, mind you; but when we make speeches we do it for the sake of argument, you see."

"Do we?" laughed Rose. "Well, I suppose the fact is, that you want me to help you write your speech; that is what you were going to say, isn't it?"

"Me?" said William, in dignified amazement. "Great help you would be! You can write 'moonlight' pieces and such nonsense for the Lyceum paper; but what do you know about logic? Now, you see, this sort of thing just suits my turn of mind, Rose. I'm going off into the library, and don't let anything or anyone disturb me till supper time. I shall write like a telegraph, for my mind is in the potential mood, present tense."

Rose pressed her lips together just in time to prevent a provoking smile. She remembered certain "compositions" which had been wrenched out of his head like sound teeth.

William locked himself in the library and tried to collect his thoughts. In the course of an hour the exultant expression had left his face; he began to look puzzled.

"O, bother this writing!" sighed he. "I can't piece the sentences together without making an ugly seam. If I could get a start now! It's like a spool of thread; if you begin right, it will unwind ever so easy; but I can't get hold of the end."

Two hours later. William's speech, which he had intended should be an iron chain of argument, bedecked with flowers of rhetoric, where was it? Farther off than ever. His thoughts would not come at all; they believed in state sov-

ereignty and paid no respect to the federal hand.

"Look here, Rose," said William next morning, looking rather sheepish, "you girls have a knack of fixing things up. I've got ideas enough; fact is, I've got too many. All that plagues me is, what to do with them. Suppose I tell you what to write and you write it? Now, that's a good girl, Rose; I'll do as much for you some time."

Rose kindly refrained from saying, "Just as I expected," and took the pencil and paper from her brother with a pleasant smile.

"Now," said William, greatly relieved to find he was not being laughed at, "I want the speech to be real sound, you know, and sort of eloquent, too. I must get in something about Demosthenes, or some of those fellows, and that golden-mouthed what's his name? Something about the settlement of America, and scaring the Quakers. Put in that Bible verse, 'Don't spare the rod or you'll spoil the child.' Say it's an awful thing to bring children up to expect presents instead of whippings—there's the point of the argument, you know—and wind off with some poetry, it won't make much difference what."

"Well, William Lawrence," said Rose in despair. "I should think your brains had been churned! You've been chasing great ideas about till you're dizzy, that's what it is. Now sit down and let's talk about it awhile before we begin."

William obeyed in humble state of mind, very much ashamed of himself for appealing to Rose, who was only a girl, and did not understand logic, yet very grateful to her after all.

Fortunately, she seemed to understand his confused ideas far better than he did, and in due time they had composed what William regarded as a sensational speech, commencing with, "Mr. President," and ending with a few lines from Milton.

"Now, Rose," said William, "that's just about the thing. But I found the ideas, didn't I? I'll learn it by heart, and see if I don't deliver it with a grand flourish. There's a great deal, you know, in the gestures. It's enough to make you ache to see how stiff some of the fellows stand when they speak. They get scared, I suppose."

But William exulted too soon. People are very brave before they ever have a tooth out, and boys are very brave before they have ever tried to speak in public.

William thought he was not afraid of anything, but when called out to speak he felt as if the joints in his body had all turned to hard wood and would not bend. He heard a suppressed titter from the little boys, and the eyes of the audience seemed to prick through his nerves like needles. Everybody took a savage pleasure in his misery, that was plain. Oh, to think he should have ever laughed at boys for being stiff when they couldn't bend!

He made his bow to the wrong side,

## We Have Told 15,000 Girls and Women How to Make Money This Year

Not by canvassing or being agents: not by getting subscriptions for *The Ladies' Home Journal*, but in scores of ways unknown to the average person and by staying right at home.

Two women do nothing else on *The Ladies' Home Journal's* editorial force but just put themselves into the positions of other women who want to make money and don't know how, and then tell them what they can do and how they can do it.

It is a regular personal service that we have back of *The Ladies' Home Journal* and at the free disposal of any reader or subscriber. It is called "What Can I Do?" Bureaus, and 15,000 girls and women wrote to it this year and were answered: not in print or in the magazine, but in direct, personal, confidential and helpful letters by mail.

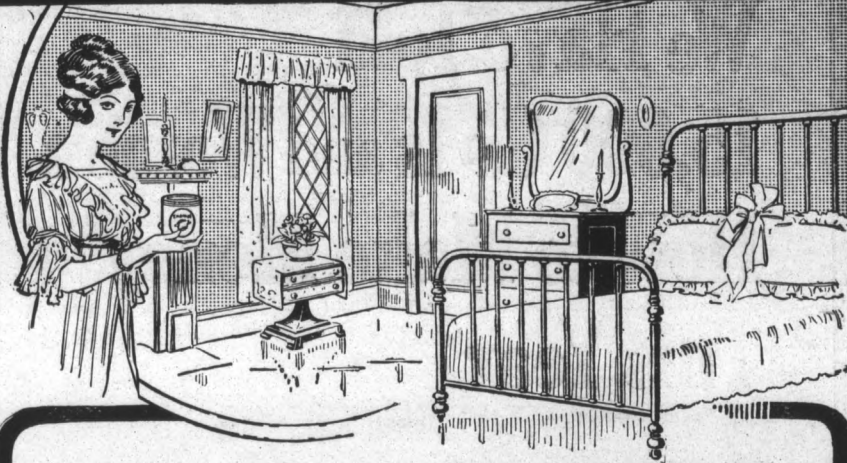
For years we have been finding out how clever girls and women have made money in unusual ways, and this information, bought and paid for, we pass on to others without charge. A booklet, "The Story of 600,000 Invisible Hands," tells something about this service. A postal-card request will bring a copy.

A year's subscription to *The Ladies' Home Journal*, by mail, costs \$1.50, or it may be bought from any Newsdealer or Boy Agent at 15 cents a copy.

THE CURTIS PUBLISHING COMPANY  
INDEPENDENCE SQUARE  
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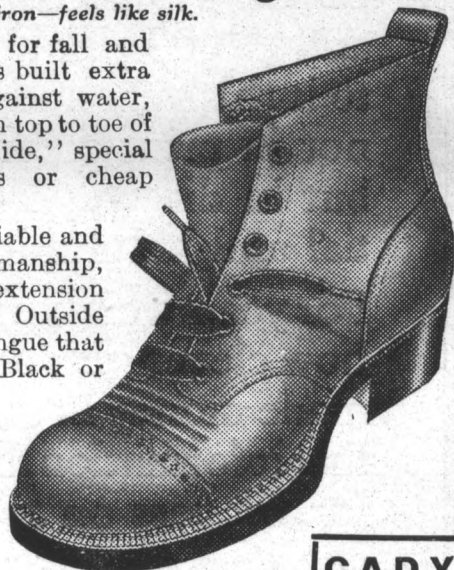
*Wears like iron—feels like silk.*

The CADY is the ideal shoe for fall and winter farm wear, because it is built extra strong, and practically proof against water, slush, snow and dirt. Made from top to toe of genuine solid leather—"Tuff Hide," special tanned—no pastboard insoles or cheap materials in the CADY.

Wears like iron, yet is pliable and easy on the feet. Our best workmanship, seams stoutly reinforced. Thick extension sole, whole vamp, Blucher style. Outside counter pocket. Full bellows tongue that keeps out water, dirt, etc. Black or chocolate color, same quality.

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Most Modern and economical lighting plants ever offered. Over 500,000 now installed on Farms, in Churches, Town Homes, Stores, etc. Made for any building, room porch, yard or drive. Make and burn their own gas—no batteries or engines to fuss with—no wicks to trim, no chimneys to clean. Fill only once a week. Clean only once a year. Always ready to light. Give rich, mellow, cheerful light—one is equal to 20 oil lamps. No glare, no flicker—just a soft, steady, brilliant glow.

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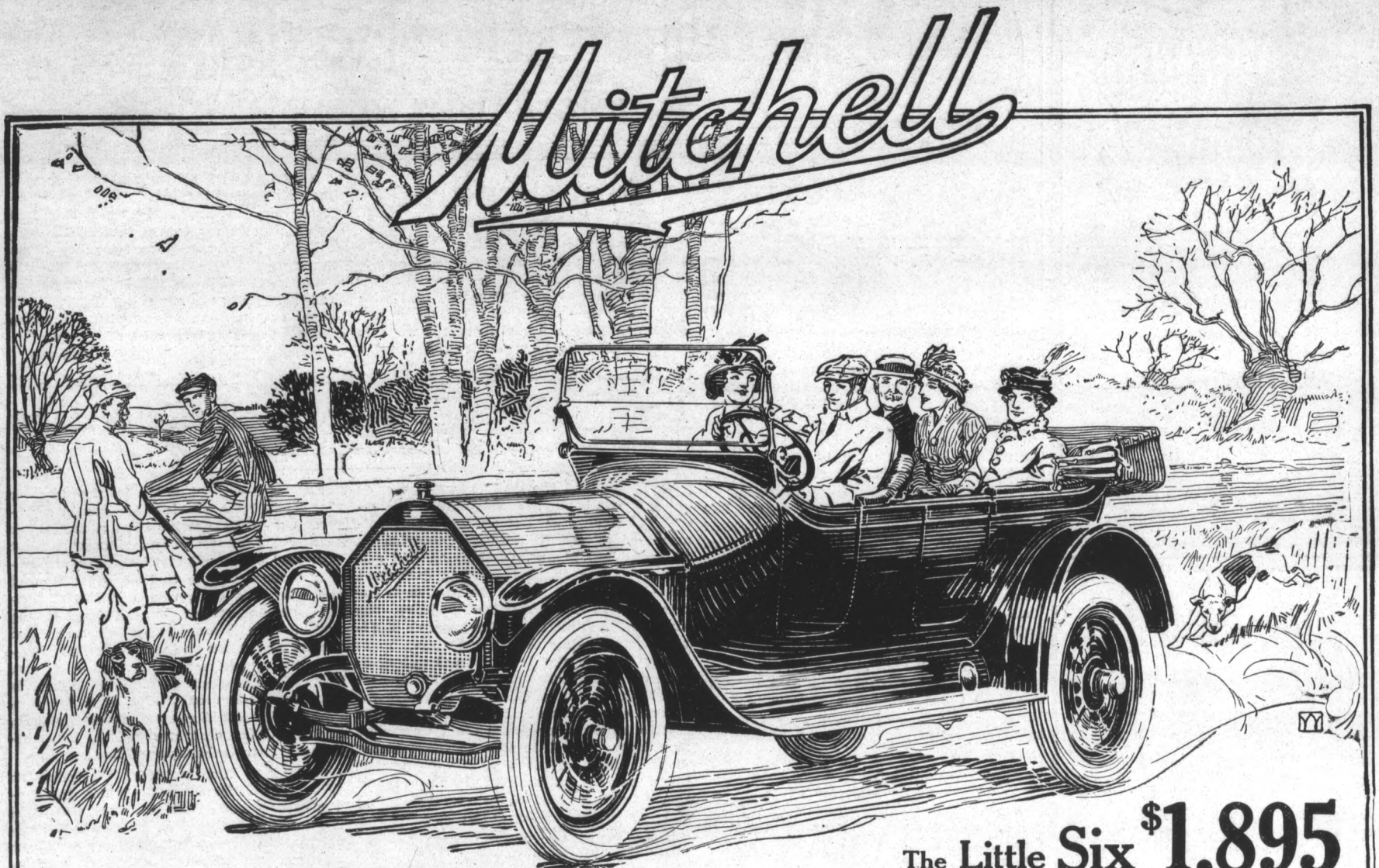
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"Well, sir," replied the sturdy farmer, as he slowly mopped his forehead with his bandanna, "it was this way. I see 'im on my property with a gun; then I heard the gun go off; then I see 'im putting the chicken into his knapsack; and it didn't seem sense nohow to think the bird committed suicide."





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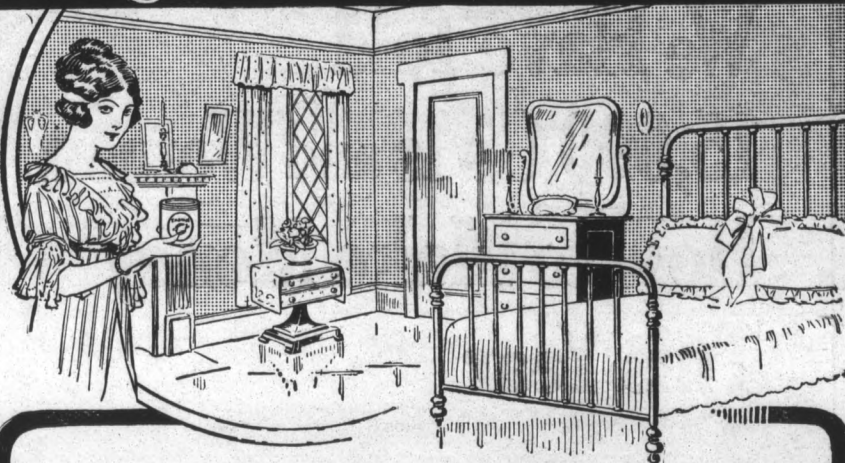
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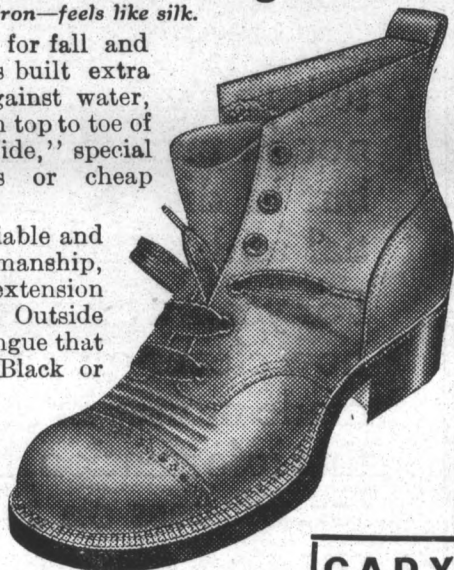
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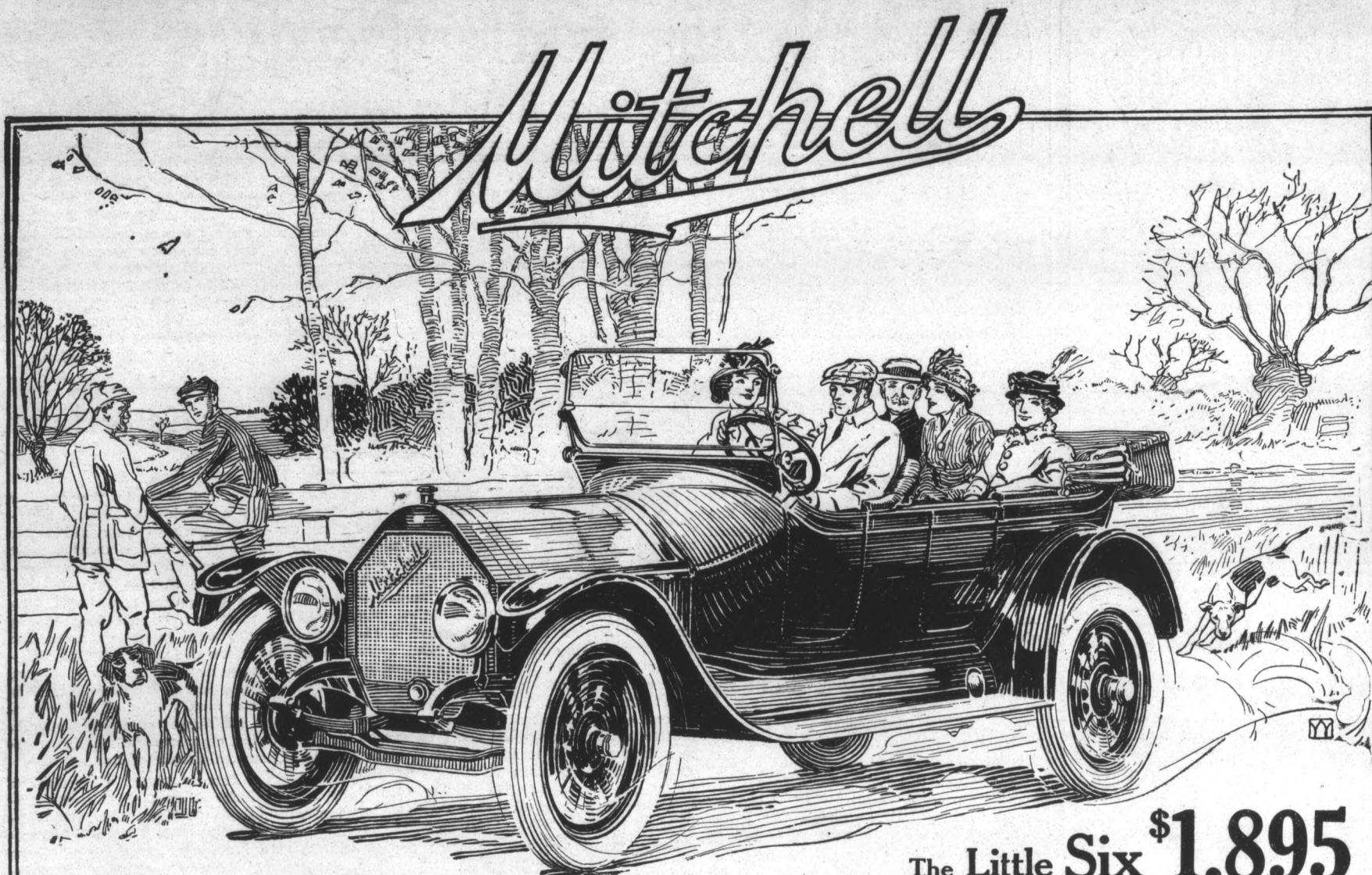
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"No, I won't do that," replied the canny yokel, "but I will say he's the man I suspect of doing it."

"That's not enough to convict a man!" retorted the commanding officer, considerably nettled. "What's raised your suspicions?"

"Well, sir," replied the sturdy farmer, as he slowly mopped his forehead with his bandanna, "it was this way. I see 'im on my property with a gun; then I heerd the gun go off; then I see 'im putting the chicken into his knapsack; and it didn't seem sense nohow to think the bird committed suicide."





The Little Six **\$1,895**

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# Woman and Her Needs

## At Home and Elsewhere

### When Seeking is Not Finding.

**H**APPINESS. The thing we all want, yet never get so long as we run after it. It is the one thing in life which comes to us when we deliberately turn our backs upon it and go after its twin, duty.

I know two women who fittingly illustrate the peculiar way happiness has of conferring her company upon us humans. One woman is determined to be happy, no matter what the cost, and spends her every waking moment in following the paths she imagines lead to the abode of earthly bliss. According to popular, but fallacious notions, she has everything to make her happy. To begin with, she has health, or did have until she tracked happiness so relentlessly her nerves gave out. She has money to gratify every whim. Servants do the work of the house and wait upon the children. She has carriages and autos to whisk her where she will. Her name appears on boards of charity and as director of sundry prominent clubs. She is dined and wined by those supposed to be the great ones of the town. Books, music, theaters, paintings have become so common as to cease to even interest. Yet she is not happy.

Never was there a more discontented woman. Each morning finds her sighing for something new. She scans books and magazines and papers in search of new ideas, but seldom does she find one that interests her for a day. Her home, beautifully furnished as it is, bores her so she hurries out in the morning as soon as she can dress, and returns usually only in time to dress for dinner at night. Her children annoy her so greatly that she never can endure more than five minutes at a time of their company. She is restless, dissatisfied, always seeking something new, yet never finding the thing that will give her peace. Excitement, and yet more excitement, is her shibboleth, and friends and relatives are laying bets on how long it will be before she burns up of nervous frenzy. She is seeking happiness with all her might, but so far has found nothing but disordered nerves and an irritable temper.

Just back of her lives a little woman who hasn't time to think of whether she is happy or not. She has a snug little home which she must keep clean; two children who must be washed and fed and started to school at eight o'clock each morn; a husband with tubercular tendencies who must be fed just the right sort of food, and prevailed upon to rest just the requisite number of hours if he is to avoid a breakdown. Then there is a garden to tend, and such a garden, chickens to feed and the usual grind of housework, washing, ironing, sewing, mending, baking, mopping, canning, pickling, lard rendering and all the other small tasks which women know without telling over.

Not much there to make for happiness, one says. Yet that woman is the happiest creature you would wish to know. Her happiness comes from forgetting herself and doing for others. Sweeping and dusting are not tasks to this woman, they are pleasures, because a clean house is essential if her family are to have the best in life, and the best for them is all she asks.

And that garden, really to hear her talk of it you would think she discovered the art and science of raising vegetables. The department of agriculture has supplied her with bulletins on raising everything that will grow in this climate, and she has studied them with a purpose. She can tell you just what soil is necessary for the best growth of each plant, how near together they can be safely planted, what enemies in the bug family to watch for and how to circumvent them should they appear. She brags about the weight of her tomatoes and the length of the cucumbers with as much animation as a fisherman shows when he tells you about the one that got away. Her chickens, too, are just as thoroughly studied and they are quite the most re-

markable fowls in captivity, if you can believe their proud owner. Each egg is inspected as proudly as her neighbor would inspect a new diamond, and with ten times the pleasure. Gardening and chicken raising are as absorbing to this little woman as card clubs and charity

balls are to the other, and a thousand times as soul-satisfying.

And she is happy because she has chosen service for others instead of self-seeking. It is many, many years since it was said, "He that seeketh his life shall lose it." But it still holds true. He that seeketh self shall be deprived of peace, but happiness is awaiting the one who goes seeking the good of others.

DEBORAH.

### Beauty Hints That Are Better Left Alone

By HILDA RICHMOND.

**M**OST of the daily newspapers, as well as the magazines exclusively for women, now run columns of advice to anxious inquirers as to improving health, complexion and appearance, but there is a vast difference as to the advice given. It is always interesting to read the beauty talks, but more interesting than the general directions for making the face or form more attractive are the letters from subscribers and their answers. It is always safe to disregard the advice of any but competent experts, and if the advice bears certain remarks even the most unlearned may know that it is safe to let it alone. Conscientious doctors and others who know what real beauty means are not breaking into print to bring trouble and distress to their fellow mortals.

Some years ago women were advised by quacks to pinch the skin of the face to make it firm and unwrinkled, and many of them rushed wildly into this business without knowing the results. It is fairly easy to find those women nowadays looking like old babies with their heavy, hanging flesh and poor complexions. Especially did the eyes suffer, and many a victim of this advice now has bulging "bags" under her eyes that never would have been there had she not pinched and pummeled the delicate flesh that nature was taking revenge. If there is anything a woman should not do it is to tamper with the muscles about her eye. About the same period women were advised to bite their lips to make them rosy, and the lip biters are also carrying in their faces the marks of their folly. Lips chewed by the teeth become thick and purple and ugly, but occasionally one sees the old recipe making the rounds to delude women.

A few years later came the fad of putting some sort of drug in the eyes to brighten them, and as a result many good eyes were permanently ruined. Along with the bright eyes, made bright with drugs, came the hair bleaching and the putting on of various compounds to make it grow. This was followed by excessive hair washing so that it was no uncommon thing for women to bathe their locks twice a week. Some of the "thin" hair of the present is the direct result of too much washing years ago.

But the present fads are just as injurious as any we have outlived, and it doesn't take an expert to pick them out. If any woman is doubtful as to the result of the experiment let her consult her family doctor, and he will very soon be able to tell her the truth. The innocent and harmless remedies usually have their roots in directions for bathing, diet, exercise and healthful sleep and living, while the harmful ones resort to drugs and dopes for beauty. When a recipe for a face wash calls for cucumber jelly made at home, buttermilk washes, good fruits applied internally and externally even an amateur knows they are harmless. But when prescriptions for unknown drugs are given freely without any personal knowledge of the case except what comes through a brief letter, then it is best to pass by on the other side.

One of the most harmful fads of the present is the reduction of flesh as advocated by people who should know better. No woman should ever try to reduce her flesh except by work, without first consulting a competent physician. The condition of her heart or some other organ of the body may make it positively dangerous to get rid of the flesh, and es-

pecially to get rid of it in the manner prescribed by a reckless adviser in a paper. One woman who tried a recipe for getting rid of "a pound a day" almost "got rid" of herself and became so homely and so irritable and so starved that she was in a dangerous condition. This particular treatment consisted of taking nothing but lemon juice for a certain period, and when she was forced to abandon the experiment she was a fright. Now lemon juice sounds harmless enough, but a steady diet of it for several weeks will almost ruin the stomach, and will bring on worse evils in many instances than an excess of flesh.

And when the treatment for reduction of flesh is finished, so to speak, the victim will put on flesh all the more rapidly and will find that nature takes revenge in a permanent way. One woman who perspired through a blistering summer in a sort of union suit made of table oilcloth, who sat till she was weak and trembling in hot baths and who starved herself down to the desired 140 pounds, found in just a few weeks that the oilcloth and the fasting and the baths were all for naught unless she kept them up, for she was rapidly putting on flesh even with a diet that did not satisfy her craving for food. Circumstances forced her to give up the treatment for lack of time, and now she vainly wishes she had "let well enough alone" for she is much heavier than ever before and is still putting on flesh. It is dangerous business to induce perspiration until it causes weakness, though free perspiration is one of the healthiest things in the world. Dizziness, nausea, trembling and faintness ought to warn any woman that she is doing the wrong thing, no matter how much she may want to become thin.

So every "beauty talk" should be carefully scrutinized before its doctrines are accepted as genuine. Harmful drugs, violent massage, starvation and other evils should never be tried, for they will surely work just the opposite. There are hundreds of women over the land who could, if they would, give their experiences with beauty advice, and who now carry in their faces and forms the marks of hurtful directions. If hard work, sensible exercise, good food, plenty of sleep and personal cleanliness can not make the anxious beauty seeker lovely, then be sure she can not rub the beauty on or rub the ugliness off. If in doubt about a course of treatment consult the doctor. It may be a little humiliating to confess that one wants to be better looking, but not half so distressing as to go through the rest of one's natural life with baggy, ugly skin, ruined eyes, irritable temper, caused by indigestion or too much fat brought on by trying to get rid of it. If anyone doubts this let her look at the unhappy victims in every public place and then form her conclusions. The homeliest women in the world are not those to whom nature was unkind, but those who have tried to improve upon the good old dame's work and have used the wrong methods. Not only is this the opinion of physicians and common everyday folks, but of the real beauty doctors—the honest ones—themselves, so it must be true.

Household Editor:—I saw where one of the readers of the Michigan Farmer requested recipes for pieplant. It is too late for this year, but I will send her one she can use for next year.



## WINTER PRESERVATION OF SUMMER BULBS.

BY CHARLOTTE BIRD.  
Dahlias.

At the north, as soon as the frost comes, dahlias should be taken out of the ground, the tops cut off and the soil and roots thoroughly dried. Then they should be placed on a swing shelf or somewhere else above the damp floor of a frost-proof cellar. It is well to allow considerable soil to adhere to the roots so that the tubers may not suffer from dryness. But if the tubers are bare, it is well from time to time to examine them and, if they show signs of wilting, to sprinkle them with a little water.

Early in the spring the tubers should be placed in boxes in the house and started. When the ground is warm enough, the clumps may be divided and planted outside. But in separating them one must be careful not to break off the sprouts because a tuber without a sprout will not grow.

## Amaryllis.

In the matter of blooming the amaryllis seems to have a will of its own. A bulb will not bloom in any case till it is three years old and then not till it is good and ready, perhaps not till it is seven or eight years old. Then some spring it will take the notion and bloom with a brilliant profusion which will atone for all its delinquency. And when it does bloom, it is likely from year to year to keep it up. And there is nothing more satisfactory. So, if any of you have an amaryllis which does not bloom, do not throw it away, but cultivate the sweet virtue of patience and you will have your reward.

The culture of the amaryllis is of the easiest, though in the fall and winter it requires some special management. In the summer it should be planted in the garden where the sun may shine on it freely. But, if it is to bloom the following spring, it must be dried off in the fall or late summer and taken out of the ground. The drying down of its top leaves is necessary for it to bloom the following season but they will not always dry down.

After the bulb is well dried, it may be put between layers of cotton and placed where it will not chill. Summer bulbs should not be exposed to a temperature lower than 50 degrees. Or the bulb may be placed in very dry earth of the proper consistency in the pot where it is to grow and set in the cellar. This is really the more convenient way, because in winter it is not always easy to get just the right kind of earth.

Late in the winter or early in the spring the bulb will start to grow, usually, almost the first thing throwing up its flower bulb. It should then be brought to the light and watered. From now on its growth will be most rapid and in two or three weeks it will be crowned with a glory of blossoms. Later in the season, if the bulb is very fertile, it may bloom a second time.

## Tuberose.

The tuberose may be treated similarly to the amaryllis. Only, its blooming season is in the fall or late summer and it might be set away in its crock till its bulb ripens. In the spring it should be brought out to the light. But it must not be planted in the garden till the earth is warm and all danger of frost past, otherwise the flower-germ will be chilled to death.

## Tuberous Rooted Begonia.

The tuberous rooted begonia also should be allowed to dry off in the fall. It should be kept between layers of cotton or somewhere else which will insure an even temperature not lower than 50 degrees. Early in the spring it should be started in pots in the house and should not be planted outside till the earth is warm and all danger of frost gone. It likes a shady, moderately damp, not moist, situation; if kept moist, it will rot off. This plant is not as well known as it deserves to be. Its cultivation is easy and it is one of the loveliest of flowers.

## Gladiolus.

Like other tender bulbs gladioli should be taken up in the fall and stored in a dry, warm place for the use of another season. One must not wait till the bulbs have become chilled with frost.

## Caladium.

The caladium should be treated similarly to gladiolus.

All this may seem like taking considerable trouble. But we can have no pleasure without paying for it in some form. And there are no lovelier flowers than those which grow from bulbs.

## POPCORN EDGING.

BY MAE Y. MAHAFFY.

Household Editor:—Will you kindly ask May Y. Mahaffy to give full directions for making edging to match band called "Pop Corn Stitch," illustrated in your columns several weeks ago? Directions for making bank were given, but not for edging.—Reader.

To make the popcorn edging illustrated in The Farmer of August 23, chain as long a strip as is necessary to edge the article at hand. Or, if preferred, single stitches may be taken right into the edge of material.

Second Row.—Chain 5 with which to turn, and double crochet into 3rd stitch of first row. Chain 2, and double crochet into 3rd stitch in advance, and so on across the length, making a series of open blocks, the usual fillet background. These are the only rows that run all the length of the work, each scallop being then completed by itself.

Third Row of First Scallop.—Chain 2, and double crochet six times into the open block last made; turn the work in the hands and slip stitch into the first of these double crochet stitches, turn work again, chain 1, and double crochet into double crochet of previous row, thus completing the puff or popcorn stitch and the square at the same time. Now make three open blocks in those of previous row and in like manner. Then make another puff in the next open block, but instead of turning the work after slip stitching chain 2 and proceed with the fourth row of the scallop, making a puff in the open square, then one open square, and another puff. Turn again after making the slip stitch in puff and finish the scallop by making a puff in the remaining open square, completing the square as in those of the second row, and securely fastening the thread underneath.

Successive scallops are made in like fashion, the thread being knotted securely each time in beginning and ending. Some workers prefer to chain or single stitch back on the wrong side of the work to the starting point for a new scallop, rather than break the thread each time. This is entirely a matter for individual decision.

## DEPARTMENT OF AGRICULTURE TO IMPROVE ITS SERVICE FOR WOMEN.

David F. Houston, Secretary of Agriculture, has already planned to address a letter to the women members of 50,000 farm households throughout the United States, requesting them to give him information as to how the Department of Agriculture can best serve the needs of the farm women.

This inquiry results from the receipt of a letter addressed to the Secretary in which the writer said:

"The farm woman has been the most neglected factor in the rural problem and she has been especially neglected by the national Department of Agriculture."

This letter was written by a broad-minded man so thoroughly in touch with the agricultural and domestic needs of the country that his opinions have great weight.

In the letter referred to women are invited to give individual answers to the letter or to discuss the matter in their church societies or women's organizations and submit answers representing the combined opinions of the women of their entire communities. The answers are requested not later than November 15, and this date is set because it will give the women time after harvest to consider the matter and discuss it with their women neighbors.

The letter will go to about 20 leading farms in each of the 2,800 counties of the United States. Their answers, it is expected, will represent the views and opinions of upwards of 500,000 farm women, and the answers will be carefully considered by the specialists of the department having to do with that branch of agricultural activity.

## SHORT CUTS TO HOUSEKEEPING.

Did you know an old wooden churn dasher makes a convenient pounder on wash day?—N. M. K.

Pieplant Relish.—Six bowls of pieplant, four bowls of sugar, one pound of English currants, two oranges. Cook half an hour, turn into jelly cups, cover with paraffin when cold. Another way we like it is: One egg, half cup of sugar, one cup of pieplant cut fine, one and one-half teaspoons soda, one cup sour milk. Stir real stiff, put in pudding dish and steam one hour. To be eaten with sugar and milk.—Mrs. F. H. C.

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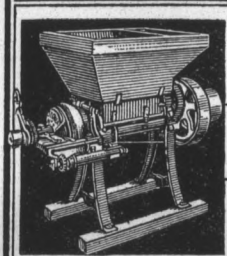
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# Farm Commerce.

## Observations on Shipping Corn.

AMERICAN methods of shipping several important staple foods by freight are decidedly wasteful and this waste in money adds materially to the cost of food. Several specialists of the Department of Agriculture have been conducting investigations into shipping conditions in the United States and as a result they are convinced that in several particulars the systems used by United States shippers are far less economical than those employed by foreign shippers, notably in Germany.

The specialists find, in several instances, that food is started on long freight journeys in such condition that heavy freight charges must be paid on elements which have to be taken out of the food at the end of the trip before it can be used as food. One of the heaviest wasted freight items is the freight paid for the transportation of excessive moisture in corn, and in potatoes to be used for stock food or in the manufacture of starch. In Germany the culls and faulty potatoes, which in this country are thrown away, are dried so as to remove all excess water and then shipped to various points for stock feed purposes. This practice of drying potatoes for stock feed and uses in the arts has not gained great headway in this country. As a result the culls commonly are thrown away and starch is made from potatoes only when there are excess crops which make them available at a cheap price which permits of shipment to the factories. Potatoes in their natural state contain upward of 70 per cent of water which has no special nutritive value. Long shipments of potatoes, therefore, in their natural state are not practicable, whereas the Germans who have dried out the excessive water find it practicable to ship the dried product.

The waste water now being shipped in corn in the United States, according to the estimates of the specialists, has a serious bearing on the actual cost of corn, and also is one explanation for the great shortage of cars at the corn shipping seasons. The specialists find, for example, that the American people are paying freight on 436,683 tons of water in shipping their corn from the producing sections to the market. This means that at a time when there is a great shortage of cars, there is the equivalent of over 14,556 freight cars of 60,000 pounds capacity loaded with water which is responsible for the enormous losses resulting from the deterioration of shelled corn before it is finally consumed. Figuring a car length at 40 feet, this means that each year a train 582,240 feet long, or over 110 miles, not counting the locomotives, is engaged in nothing more profitable than hauling water from a few miles up to a thousand miles in the case of corn shipped to the seaboard points from the central corn producing area. Exactly how much excess freight this represents cannot be accurately determined, but as the freight rate on corn is about one per cent per ton mile, it can be seen that this hauling of useless water in corn adds materially to the cost of the product before it reaches the consumer.

A study of the average moisture content from the receipts of corn for Baltimore, Chicago, St. Louis and New Orleans shows that from June to October the average moisture content of corn received ranges from 12.9 to 14.1 per cent. This corn, which has been stored in cribs and allowed to dry out, is, therefore, below the moisture content of 15.5 per cent which is the maximum moisture permitted by the new proposed corn grades for No. 2 corn. During the months from November to April, however, the moisture content ranges from 18.5 to 20.2 per cent on an average for corn, so that all corn received at these great corn markets during these six months contains an average of from three to 4.5 per cent more water than is permitted for No. 2 grade corn. This means that in every bushel of corn from one and two-thirds pounds to two and one-half pounds of useless water is shipped on the railroads. Using the actual averages of excessive moisture, and disregarding the special shipments where the moisture content may run as high as

27 per cent, the specialists find that the excess water shipped amounts to the equivalent in weight for 15,595,800 bushels of corn.

The presence of this excessive moisture in corn not only adds to the net cost of the corn after it is delivered but prevents the producer who ships corn over the moisture limit from having his corn graded as grade two, and consequently compels him to accept a grade three or lower, with a corresponding reduction in price for his produce. Moreover corn with an excessive moisture content is liable to deteriorate in storage. Many corn dealers, therefore, on receipt of the corn have to dry out the excessive water, although others store the moist corn and do not dry it out until it shows danger of deterioration. They hope to get rid of it in its original condition without the necessity for drying it.

Many of the big elevators in the central markets now have machinery for drying out excessive moisture. Comparatively few of the smaller collecting elevators have these drying machines, and the only method of drying corn possessed by most producers is storing it properly in cribs. Corn shipped during the summer months, therefore, has had a chance to dry out in the crib, but in the cold and wet months crib drying is not very effective and corn shipped during these months generally has a moisture content about No. 2 grade. Because of the moisture in such corn, few country buyers will buy corn from farmers except as No. 3 or No. 4 grade. If it grades better, the buyer, and not the producer, gets the benefit of the better rating. Under the present system the farmer has no way of determining the actual grade of his corn in his crib, and having brought it to a shipping point could not afford to return it to his bins. There is, however, a movement in communities where co-operative production is being established to inaugurate a system whereby farmers can have their corn graded at the crib and thus determine whether or not they will sell it, before they have hauled it to a shipping point. The question of moisture content and the tremendous waste in freight paid on water that is later dried out of the corn has not heretofore, according to the specialists, received the attention it deserves. The question is particularly important because of the annual shortage of cars at the big corn moving seasons. These specialists point out that if more attention was paid to the growing of early maturing varieties, or if all corn were dried down to No. 2 grade, it would bulk less and weigh more per volume, so that more actual corn could be packed in each freight car of any given capacity. This, they figure, would make available, throughout the period when excess moisture is shipped, nearly 15,000 additional freight cars for moving corn or other freight. Besides the extra freight on the water, the presence of excessive moisture in corn under certain conditions causes the corn to spoil and frequently leads to claims and expensive lawsuits between shippers and the railroads arising from such losses.

### OTTAWA COUNTY CELERY MEN UNITE.

The celery farmers living near Hudsonville have organized, with the following officers: President, N. De Weerd; secretary, Henry Geerits; treasurer, Otto Dykema. The membership includes 150 farmers, or practically every celery grower of that section, and they are building a warehouse 36x80 feet at Hudsonville, at a cost of \$3,500. It is a frame building with cement basement and sheet steel roof and has railroad siding for shipments. Onions and potatoes may also be stored in the basement. The members will bring their celery to the warehouse for sorting and boxing in a uniform manner, with experts to grade and label the product and the association mark will be a guarantee of quality. The warehouse facilities will also permit of storing the crop until the market is ready for it. The association has just decided on a uniform package for use this year, and it will be

what is known as the "Muskegon Box." Recent rains have greatly helped this season's crop, so that it will almost reach an average yield of 300,000 to 400,000 crates for this district, averaging about 85 cents a crate profit to the grower. Heretofore each farmer has been doing his own marketing and results were usually unsatisfactory due to lack of grading, packing and marketing methods. Under the new plan it is intended to give Hudsonville celery an enviable name and the best possible show in outside markets. Celery farmers around Zeeland and in other sections are already talking of forming similar co-operative associations.

Kent Co.

A. GRIFFEN.

### ESTABLISHING A CREAMERY.

Mr. Magnusson, of Delta county writes asking for suggestions on establishing a creamery, stating that the farmers of his vicinity are interested in such an institution.

Just as soon as the dairy interests of the community will warrant it I think the proper thing to do is to establish a creamery. That is the only proper way to make butter, in a co-operative way. In this way you can produce the butter in commercial quantities which will warrant you in shipping it to the best dairy market. Not only that but you will make butter of uniform quality, which enhances its value very much. Where butter is made by a thousand different people it lacks uniformity, and will not sell for as high a price as if all this butter was made at one creamery by an expert and has the same quality and uniformity.

My opinion is that it is always better to establish a purely co-operative creamery. Don't have a co-operative stock company. Many of the co-operative stock companies have gone on the rocks financially, simply because the stockholders could not agree or because the people lacked confidence in the stockholders. The way to do is to get everybody who owns cows interested in the creamery and this can be done only with a purely co-operative plant. Canvass the country. Get the number of cows for a certain period of time, three or four years at least. Then borrow the money and build the plant if you get a sufficient number of cows guaranteed, to warrant it. Then have it understood that one-fourth or one-half a cent a pound from every pound of butter-fat that is delivered at the creamery is laid aside to pay the indebtedness, or to pay for the plant. Then the expenses of manufacturing are deducted and the balance is to be divided among the patrons. In this way the farmers get every cent that belongs to them.

COLON C. LILLIE.

### MILK AND CREAM TESTED FREE.

Our subscribers are finding the free milk and cream testing service of real value, and they are so pleased that letters of commendation are coming to our desks.

The fact that Dr. Floyd W. Robison is supervising this work, puts it on an absolutely reliable basis.

Remember, the testing is done free for any subscriber to the Michigan Farmer.

The directions are very simple: Put sample of milk or cream that is satisfactory to you and the buyer, in wide-mouthed bottle, enclose bottle in mailing case and send by parcel post to Michigan Farmer Laboratories, 674 Woodward avenue, Detroit, Mich.

If you cannot provide bottle and mailing case, we have arranged with a large concern to provide a mailing case for six cents and a case and bottle for ten cents in stamps. When asking for mailing case and bottle address Michigan Farmer, Detroit, but in sending the sample of milk address it to Michigan Farmer Laboratories, 674 Woodward avenue, Detroit.

That the shortage in beef may be partly overcome by the use of national forests for grazing purposes is pointed out by a bulletin just sent out by the forestry department service in Washington. During the past summer 9,500,000 domestic animals were grazed in the national forests without injury to forest or watershed protection. Many more animals can be accommodated, says the bulletin.

The prevalence of hog cholera in Iowa and other middle western states has resulted in forcing enormous numbers of pigs on the Chicago market, many of them being healthy, but with many cases of sickness in their neighborhood, owners lost no time in getting rid of them, fearing that the plague might affect them at any moment. On a recent Monday about 10,000 mere pigs reached the Chicago stock yards, and by far the greater part showed no indications of sickness.



## MICHIGAN CROP REPORT.

**Wheat.**—The estimated yield of wheat in the state is 16.15, in the southern, central and northern counties 16 and in the upper peninsula 22 bushels per acre. The estimated total yield for the state, sections and counties will be given in the November Crop Report.

The total number of bushels of wheat marketed by farmers in September at 84 flouring mills is 143,504 and at 86 elevators and to grain dealers 121,416 or a total of 264,920 bushels. Of this amount, 192,461 bushels were marketed in the southern four tiers of counties, 52,431 in the central counties and 20,028 in the northern counties and upper peninsula.

The estimated total number of bushels of wheat marketed in the two months, August-September, is 150,000. Forty-eight mills, elevators and grain dealers report no wheat marketed in September.

The per cent of acreage sown this fall as compared with last year is 93 in the state, 89 in the southern counties, 98 in the central counties, 96 in the northern counties and 102 in the upper peninsula. The average date of sowing wheat in the state is September 19, in the southern counties the 22nd, in the central counties the 17th and in the northern counties and upper peninsula the 16th.

**Rye.**—The per cent of acreage sown this fall as compared with last year is 93 in the state, 89 in the southern counties, 92 in the central counties and 99 in the northern counties and upper peninsula.

**Barley.**—The estimated average yield per acre in the state is 25, in the southern counties 22, in the central counties 26, in the northern counties 27 and in the upper peninsula 32 bushels.

**Oats.**—The estimated average yield per acre in the state is 30, in the southern counties 25, in the central and northern counties 27 and in the upper peninsula 47 bushels.

**Corn.**—The estimated average yield in the state is 32, in the southern counties 30, in the central counties 35, in the northern counties 34 and in the upper peninsula 38 bushels per acre.

**Potatoes.**—The estimated average yield in the state is 87, in the southern counties 69, in the central counties 98, in the northern counties 95 and in the upper peninsula 165 bushels per acre.

**Beans.**—The estimated average yield in the state is 12, in the southern counties 11, in the central counties 14, in the northern counties 13 and in the upper peninsula 20 bushels per acre.

**Sugar Beets.**—The estimated average yield in the state and central counties is 10, in the southern counties 9, in the northern counties 11 and in the upper peninsula 13 tons per acre.

**Buckwheat.**—The estimated average yield in the state and northern counties is 15, in the southern counties 13, in the central counties 14 and in the upper peninsula 27 bushels per acre.

## CROP AND MARKET NOTES.

## Michigan.

**Livingston Co., Oct. 6.**—Recent rains have been very beneficial for wheat and have kept pastures fresh. Fall grain is nearly all sown. Beans were secured in good condition and many that have threshed are selling for \$1.75 per bushel. They are yielding from 15 to 20 bu. per acre and of very good quality. Corn is nearly all cut but the yield will be light owing to the dry season.

**Genesee Co., Oct. 9.**—Fine weather for fall work has characterized the past few weeks. Corn is mostly in the silo and root crops are fast being secured. The high price of hay tempts many to sell this early in the season. Alfalfa is winning more and more friends and this year has witnessed many successful stands. The dairy cow reigns supreme in the section around Flint, and alfalfa and ensilage cause a broad smile on the countenances of dairymen generally. Tuberculin test is compulsory for herds supplying milk in the Flint market but the ruling has been complied with cheerfully as a general thing.

## New York.

**Genesee Co., Oct. 4.**—A frost on the morning of September 15 killed all tender vegetation, with the exception of that which was on high ground where the drainage was good. All corn was damaged; also late potatoes and late beans; also some limas and tomatoes intended for the canning factory. The drouth which began in June, continues. We had a rain, however, on September 21 which helped pastures and the germination and coming up of fall sown grain, the latter of which is fine. The price of all live stock remains very high. Farms change hands very little. The prices asked discourage many prospective buyers. Following are the prices paid by dealers, not the retail prices: Butter, dairy, 30c; creamery 34c; pork, dressed, 12c; live 8½c; eggs, fresh, 28@30c; spring chickens 16c lb; fowls 14c; lambs 12c; wheat 92c bu; oats 45c; beans, medium, \$2.15; pea \$2.10; red kidney \$3; red marrow \$3; hay, loose, \$10@12; potatoes 75 @90c bu.

## Pennsylvania.

**Perry Co., Oct. 4.**—Past two weeks very rainy; most of seeding done. Some farmers plowing for next year's corn crop. Since the rain fields are looking as green as in May. Not many silos in this county. Hogs not plentiful; cattle scarce and high in price. Eggs 30c; butter 29c; wheat 85c; wages 75c per day, and board; farmers are liming and using commercial fertilizers.

**Lanecho Co., Oct. 4.**—Corn all in shock and some early husking done; crop good. Selling at \$1 per bbl. Potatoes largely sold, price 70c per bu. Hay is being held for higher prices. Hogs scarce and correspondingly high. Veal calves high. Cows scarce and high. Milk \$1.40@1.75 per cwt; eggs 32c; butter 31c; young chickens 16c. Wheat seeding in full swing. Apples very scarce. Farmers

generally opposed to 50 million road bond issue. Tobacco in barns.

**Lancaster Co., Oct. 6.**—Tobacco all harvested. Potatoes are harvested and very scarce. Tomatoes plentiful; cabbage is scarce; sweet potatoes half a crop; sweet corn half a crop; field corn three-fourths of a crop. Wheat seeding done. Turnips scarce; apples one-fourth crop. Wheat yielded fair and rye not a half crop.

**Montgomery Co., Oct. 6.**—The weather is fine. Had no frost yet to hurt anything except light frost Sept. 16. Corn nearly all cut and some started to husk. Will be a fair crop. Fall seeding done, which is mostly rye, but some wheat. Markets: Choice timothy hay 75c per cwt; meadow hay 40c; wheat \$1; corn 92c; oats 54c; rye 70c; potatoes 90c; eggs 36c; chickens, dressed, 20c per lb; home-made butter 35c; creamery 36c; hogs, dressed, \$12; veal calves \$10.

**Erie Co., Oct. 7.**—Weather very warm today, temperature 80 degrees. Two days' rain last week; conditions have been such as to allow farm work to be well advanced. Wheat is being sown and the acreage is small. Corn cutting is nearly done, on account of severe frost Sept. 14, which froze corn that was not ripe. Many new silos have been erected this season and the filling of them has begun. Oats selling at 45c per bu; buckwheat is being threshed with a fair yield, selling at \$1.25@1.60 per cwt. Potatoes selling at \$1.25 per bu, with light crop. All kinds of stock high. Prices of all produce high. Laborers are scarce and demand a high price. Wages range from \$1.50@2 and board, considering the prices of produce and stock and everything in general, a wave of prosperity is felt among the farmers.

**Brown Co., Oct. 6.**—The long drouth has been broken by a few showers which have caused the pastures to look well. Corn is all cut and the wheat mostly all sown. Tobacco crop is very light and looks as though the price will be high.

**Hancock Co., Oct. 6.**—Weather very wet, almost impossible to get wheat sown. Corn not nearly all cut. Fodder entirely spoiled by a very severe frost on Sept. 22. Clover seed threshing delayed by heavy rains. Much of it growing in the bunch. Seed making from two to three bushels per acre. Fall pastures very good; stock looking fine. Many hogs dying from cholera in this county. Hogs still holding up well in price. Many will feed sheep this year in preference to cattle on account of high prices of feeders. Wheat 87c; corn \$1 per cwt; oats 39c per bu; cloverseed \$6 per bu; butter 22c; eggs 26c; old chickens 12c; spring chickens 16c.

**Greene Co., Oct. 6.**—We have had seasonable weather the past month. Frost on the 23rd caught a large acreage of corn uncut, most of it out of danger, however. Tobacco was thought to be badly injured at first, but did not prove to be so bad as feared. Wheat sowing is nearly completed, the bulk of it having been sown between Sept. 15 and October 6. Some is showing up nicely. About average acreage sown. Hog cholera has broken out in several places in the county, the worst for several years. Corn 70c; wheat 88c; clover \$5.50; hogs 8½c; eggs 25c per dozen.

**Sandusky Co., Oct. 2.**—Frost of Sept. 22 killed all vegetation. Corn crop light and mostly cut since frost. Potatoes very late and poor. Cabbage almost a failure on account of dry weather and worms. Seeding three weeks late, small acreage. Too dry in August and September; too much rain now. Apple crop very light at \$1 per bu; potatoes 90c; wheat 90c; corn \$1 per cwt; oats 40c; rye 60c; old hens 12c; young chickens 14c; eggs 28c; butter 28c; hogs 8@8½c.

**Wayne Co., Sept. 29.**—The weather has been fine through the month of September with two good showers of rain and a killing frost on the morning of the 23rd, freezing the corn and everything. Corn was nearly ready to cut before the frost, the majority of it being ripe. Wheat is pretty nearly all sown, some up nicely and some still to sow. Corn cutting is pretty well under way, in general a pretty fair crop. Cattle very scarce and high, hogs also. Hay, No. 1 timothy, \$12.50 per ton; wheat about 88c per bu; oats 45c; corn 90c; butter 28c.

## Indiana.

**Shelby Co., Oct. 6.**—Wheat is nearly all up and looking exceedingly well; a startlingly general use of fertilizer was evident everywhere. The yield of clover seed is conceded to be much below normal, and the threshing is not much more than half finished. Corn is a very poor crop indeed, but it is not ready for marketing at this time pop corn is yielding well. Sweet and Irish potatoes are very short. Sorghum acreage is small. There is an abundance of apples, pears, and peaches. Prices: Corn 65c; oats 35c; wheat 87c.

**Rush Co., Oct. 6.**—Large wheat crop of last season is cause for extensive acreage being put in this fall. Young wheat looks O. K. Corn is maturing rapidly and certainly will be a bumper crop. Trees are breaking down from excessive weight of fruit. Tomatoes were hurt by big frost. There is a bountiful supply of nuts of all kinds excepting beech, of which there are none whatever. Not much rain. Recent cold snap which lasted throughout one week produced first ice of the season. Birds are going south daily.

**Elkhart Co., Oct. 2.**—Rainy weather for the last week. Farmers are through sowing wheat and are making apple butter, digging potatoes, and attending merchants' home-coming celebration. Potatoes are yielding fair and are selling at \$1 a bushel. All stock high in price. Good cows are selling from \$75@100.

## Illinois.

**Marion Co., Oct. 5.**—Early September rains solved the water problem and improved the pastures, but made the harvest (Continued on page 350).

# ROOFING SALE

More than \$325,000 worth of every make and kind of brand new, dependable roofing now being offered at such remarkably low prices, that we ask all in need or who contemplate buying to hesitate placing orders until they get these remarkable

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Prices. This lot consists of every known make of roofing—Galvanized, 2½c per sq. ft.; Corrugated Steel, 1½c per sq. ft.; Rubber Surfacted Ajax Roofing 62c per square, etc. We now own the Chicago House Wrecking Company and incorporated for \$10,000,000; this tremendous purchase is the first result—nothing like it ever before attempted by anyone. Every dollar's worth of the roofing guaranteed brand new. Every quality. Write for free samples and remarkable prices.

**HARRIS BROS. COMPANY**  
Dept. BM-43 Chicago, Ill.

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Have for sale fine bulls out of cows with high official butter and milk records.  
**PRICES \$100 to \$200,**  
all grandsons of King Segis, King of the Pontiacs and DeKol 2nd, Butter Boy 3rd.

**FOR SALE** Or trade for registered Percheron colts or mares, 8 registered Holstein cows, 6 with A. R. O. Records; 1 herd bull 4 years old out of 31 lb. dam; 2 young bulls with A. R. O. breeding; 2 young Mammoth Spanish Jacks.  
GEO. B. PARDEE, Galien, Berrien Co., Michigan.

## BREEDERS' DIRECTORY.

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## Aberdeen-Angus.

Herd, consisting of Trojan Ericas, Blackbirds and Prides, only, is headed by Egerton W. the GRAND CHAMPION bull at the State, West Michigan and Bay City Fairs of 1912 and the sire of winners at these Fairs and at the INTERNATIONAL, Chicago, of 1912. **WOODCOTE STOCK FARM, Ionia, Mich.**

**GUERNSEYS**—Reg. Tuberculin Tested. Windsor Farm, Watervliet, Mich.  
J. K. BLATFORD, Auditorium Tower, Chicago, Ill.

**Guernsey Bull** ready for service. Large, thrifty top notcher. Write today for description and price. G. A. Wigent, Watervliet, Mich.

**Guernsey Bull Calves For Sale.** One eligible to register and two high grades. W. D. KAHLER, Corey, Michigan.

**HEREFORD BULLS FOR SALE** China Hogs. ALLEN BROS., Paw Paw, Michigan.

**Purebred Registered HOLSTEIN CATTLE**  
The Greatest Dairy Breed  
Send for FREE Illustrated Booklets  
Holstein-Friesian, Assn., Box 164, Brattleboro, Vt.

1 Holstein Bull.....\$900  
1 Holstein Bull.....\$100  
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Our sire is brother to 3 world record cows. The dams are choice with large A. R. O. records. Quality considered these are very cheap. **LONG BEACH FARMS, Augusta, (Kalamazoo Co.) Michigan.**

**A FEW CHOICE** Holstein Friesian Bull Calves for Sale. A. R. O. Stock. **GREGORY & BORDEN, Howell, Michigan.**

**For Sale**—reasonable prices, choice registered HOLSTEIN SIREs, ready for service. **HATCH HERD, Ypsilanti, Mich.**

**Buy A World Record Holstein Bull**  
NEXT TIME. We have 2 with 75% same blood of world record cows. Great bargains at \$250 each. **LONG BEACH FARMS, Augusta, (Kalamazoo Co.) Mich.**

## "Top-Notch" Holsteins.

Choice bull calves from 6 to 10 mo. old, of fashionable breeding and from dams with official milk and butter records for sale at reasonable prices. **MOPHERSON FARMS CO., Howell, Michigan.**

**Registered Holstein Cow** 8 years old, fresh, with bull calf, by one of the best bulls in Michigan. Mostly white, very large and attractive, excellent breeding. Write for pedigree. **J. E. ABRAMS, Lawrence, Michigan.**

**HOLSTEIN BULLS** ready for service. Bred, built, and priced right. Write or better, come and see. **E. R. CORNELL, Howell, Michigan.**

## Bull Ready For Service.

A grand son of Pietertje Hengervelds Count DeKol, and out of Bertha Josephine Nudine. This is an almost faultless individual. Guaranteed right in every particular, and "dirt" cheap to a quick buyer. Also 7 good cows, one fresh—the others yet to freshen. The above would make a fine herd for some one. \$1950 will buy the bunch. **L. E. CONNELL, Fayette, Ohio.**

**Registered Holstein Heifer** Coming 2 years old, bred to one of the best bulls in Mich., to freshen Feb. 1st. Excellent breeding and form. \$250. Write for pedigree. **Hobart W. Fay, Mason, Mich.**

**BUTTER BRED JERSEY BULLS**  
CRYSTAL SPRING STOCK FARM,  
Silver Creek, Allegan County, Michigan.

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

**Lillie Farmstead Jerseys**  
(Tuberculin tested. Guaranteed free from Tuberculosis.) Several good bulls and bull calves out of good dairy cows for sale. No females for sale at present. Satisfaction guaranteed.  
**COLON C. LILLIE, Cooperville, Mich.**

**FOR SALE—Jersey Bull Calf**  
Dam's 2-year-old record 8610 lbs. of milk, 513 lbs. butter in 11 months. Sire's dam's record 10550 lbs. of milk, 694 lbs. butter in one year. **WATERMAN & WATERMAN, Ann Arbor, Mich.**



### The Jersey

The Jersey gives richer milk and more butter than any other known breed, at a lower keeping cost. She does it continuously and persistently. Her milk and butter bring better prices than the product of any other dairy breed. That's where quality does count. Jersey facts free. Write now. We have no cows for sale.

**AMERICAN JERSEY CATTLE CLUB**  
314 W. 23d Street, New York

**For Sale**—Registered Jersey Cattle, tuberculin tested; bulls and bull calves; heifer and cow testing Association records. **IRVIN FOX, Allegan, Mich.**

**9 Shorthorns**—Bulls from 8 to 12 months old. Best of breeding. Write for pedigrees. **W. W. KNAPP, Howell, Mich.**

**3 Choice Shorthorn Bulls For Sale.** 7 to 9 mos. old, Bates bred, Registered. Call or write to **J. E. TANSWELL, Maple Ridge Farm, Mason, Mich.**

**Shorthorns**—A few bulls from 6 to 9 mos., sired by a grandson of Whitehall Sultan, also choice females. **Frank Rohnbacher, R. F. D. 2, Laingsburg, Mich.**

**DAIRY BRED SHORTHORNS**—Bates bred bull 7-mo. old for sale. Price \$100. **J. B. HUMMEL, Mason, Michigan.**

**FOR SALE**—6 Shorthorn Bulls, 7 to 12 mos., sired by grandson of Whitehall Sultan, also choice females. **W. B. McQuillan, Howell or Chilson, Mich.**

## SHEEP.

**Delaines and Merinos**—Large size, long staple, heavy shearers. Stock for sale at greatly reduced prices. **S. H. Sanders, Ashtabula O.**

**OXFORD RAMS AND EWES** FOR SALE at farmers prices. Address **B. F. Miller or Geo. L. Spillane, Flint, Mich.**

**OXFORDS**—REGISTERED RAMS, DIFFERENT AGES \$12 to \$15 each. **B. B. REAVEY, Akron, Michigan**

**Three-Year-Old OXFORD and SHROPSHIRE Rams** For sale cheap. **Parkhurst Bros., Reed City, Mich.**

**SHEEP FOR SALE IN CARLOAD LOTS.** **PARKHURST BROS., Reed City, Michigan.**

**Reg. Rambouillet Sheep, Pure Bred Poland China HOGS and PERCHERON HORSES.** 24 miles E. Morrice, on G. T. R. R. and M. U. R. J. Q. COOK.

**The Ingleside Farm** is offering more and better Shropshire Sheep than ever before. All stock recorded. Write us what you want **HERBERT E. POWELL, Ionia, Mich. Citizen's Phone.**

**SHROPSHIRE** A few choice rams priced right for immediate shipment. **C. J. THOMPSON, Rockford, Michigan.**

**SHROPSHIRE RAMS.** Registered. Sired by Imp. Minton ram. Quality for grade or registered flocks. Also some young ewes. Prices right. **WILLIS S. MEADE, Lapeer, Michigan.**

**1st and 2nd** Prize two-year-old Shropshire Rams 1912. Also good yearling Rams and Ewes for sale. **E. E. LELAND & SON, Ann Arbor, Michigan.**

**REGISTERED SHROPSHIRE**—Rams and ewes for sale at reasonable prices. Breeding of the best. **Harry Potter, Davison, Mich.**

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**Reg. Shropshire**—2 and 3 yr. old rams and some extra good lamb rams, wool and quality right. **Geo. P. Andrews, Dansville, Ingham Co., Mich.**

**SHROPSHIRE YEARLING** and two-year-old Rams. Good ones, priced to sell. **W. E. MORRIS, Flushing, Michigan.**

**SHROPSHIRE RAMS AND EWES FOR SALE.** **DAN BOOHER, R. 1, Marion, Michigan.**

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**Durocs & Victorias**—A Desirable Bunch of Sows of Either Breed due April and May. **M. T. Story, R. R. 48 Lowell, Mich. City Phone 56.**

**Berkshire Boar**—of spring farrowing with the best of breeding for sale. **A. A. PATTULLO, R. No. 1, Deckerville, Mich.**

**BERKSHIRES** Choice spring boars and gilts, priced to move quick. Farmers stock. **ELMHURST STOCK FARM, Albion, Mich.**

**Beautiful Young BERKSHIRE SOW** sired by best son out of a daughter of the world's Champion Premier Longfellow. Price \$50, worth \$100. Pigs either sex. \$15 each. **C. D. WOODBURY, Lansing, Mich.**

**Chester Whites**—Spring and summer pigs, write us your wants. Price and quality right. **Meadow View Stock Farm, R. F. D. No. 5, Holland, Mich.**

**O. I. C.**—BIG GROWTHY TYPE. Last spring stock, either sex, pairs not akin. Very good stock. Scott No. 1 head of herd. Farm 3 mi. west of depot. **OTTO B. SCHULZE, Nashville, Mich.**

**O. I. C.**—MARCH and APRIL PIGS, the long growthy kind, with plenty of bone. No cholera ever on or near farm. Satisfaction guaranteed. **A. NEWMAN, R. 1, Marlette, Mich.**

**O. I. C.'s.**—Taking Orders for Sept. Pigs, pairs and trios. **FRED NICKEL, R. No. 1, Monroe, Michigan.**

**O. I. C. SWINE**—Bred gilts all spring pigs on hand. Will book orders for Sept. pigs, get my price on pairs and trios not akin. **A. J. GORDON, R. No. 2, Dorr, Mich.**

**WRITE US** Your Wants For Reg. Chester White Swine, Holstein Bulls, Shropshire Sheep Lamb Rams, etc. ready for shipment. **RAY B. FARHAM, Bronson, Michigan.**

(Breeders' Directory continued on page 333.)



# Markets.

## GRAINS AND SEEDS.

October 14, 1913.

**Wheat.**—Values had a slight trend downward and now rule a fraction below last week's figures. The bearish feeling was largely the result of foreign news since here receipts are restricted by farmers holding back their surplus for better quotations. Spring wheat is in good supply but there is a liberal shortage in the winter kind. A year ago No. 2 red wheat was \$1.11 per box. Quotations for past week are:

|           | No. 2  | No. 1  | Dec.   | May.   |
|-----------|--------|--------|--------|--------|
| Wednesday | 94 1/4 | 94 1/4 | 95 1/4 | 99 1/4 |
| Thursday  | 94 1/4 | 94 1/4 | 95 1/4 | 99 1/4 |
| Friday    | 94     | 94     | 95 1/4 | 99 1/4 |
| Saturday  | 94     | 94     | 95 1/4 | 99 1/4 |
| Monday    | 93 1/2 | 93 1/2 | 95     | 99     |
| Tuesday   | 93 1/2 | 93 1/2 | 95     | 99     |

**Corn.**—With the shortage in the corn crop becoming more and more evident to the public, the feeling among dealers is strong and values have held steady the past week. The price is now nearly 10c above that of last year, it being 64c then. Quotations of the week are:

|           | No. 2  | No. 1  | Dec.   | May.   |
|-----------|--------|--------|--------|--------|
| Wednesday | 72 1/4 | 73 1/4 | 73 1/4 | 73 1/4 |
| Thursday  | 72 1/4 | 73 1/4 | 73 1/4 | 73 1/4 |
| Friday    | 72 1/4 | 73 1/4 | 73 1/4 | 73 1/4 |
| Saturday  | 72 1/4 | 73 1/4 | 73 1/4 | 73 1/4 |
| Monday    | 72 1/4 | 73 1/4 | 73 1/4 | 73 1/4 |
| Tuesday   | 72 1/4 | 73 1/4 | 73 1/4 | 73 1/4 |

**Oats.**—This deal continues steady with corn. Offerings are not liberal. Demand is fair. Quotations:

|           | Standard. | White. |
|-----------|-----------|--------|
| Wednesday | 43 1/4    | 43     |
| Thursday  | 43 1/4    | 43     |
| Friday    | 43 1/4    | 43     |
| Saturday  | 43 1/4    | 43     |
| Monday    | 43 1/4    | 43     |
| Tuesday   | 43 1/4    | 43     |

**Beans.**—Prices show a reaction of 10c from last week's reduced values. Quality of the new beans is fine. Cash beans for immediate and prompt shipment are now quoted at \$1.90; Oct., \$1.90; Nov., \$1.70 per bu.

**Chicago.**—(Oct. 13).—Market is firm. Quotations are: Pea beans, hand-picked, choice \$2.20; red kidneys \$2.40 to \$2.50; white kidneys \$3 per bu.

**Rye.**—The rye market is dull with no change in values; cash No. 2 quoted at 68c, which is last week's figures. At Chicago cash No. 2 is quoted at 66 1/2 to 67c, which is last week's quotations.

**Cloverseed.**—There is a fairly good yield of common seed, although it is apparent that trade will readily absorb surplus. Prime October is now quoted at \$7.75; Dec., \$7.75 per bu. Sales of October alsike were made at \$10 per bu.

**Alfalfa Seed.**—Prime spot nominal at \$7.50 per bu.

**Timothy Seed.**—This market is lower, with prime spot selling at \$2.40 per bu., which is last week's figure.

## FLOUR AND FEEDS.

**Flour.**—Jobbing lots in 1/2 paper sacks are selling on the Detroit market per 196 lbs. as follows: Best patent, \$5.40; second, \$5.10; straight, \$4.90; spring patent, \$5.10; rye flour, \$4.60 per bbl.

**Feed.**—In 100-lb. sacks, jobbing lots: Bran, \$26; coarse middlings, \$27; fine middlings, \$29; cracked corn, \$27; coarse corn meal, \$31; corn and oat chop, \$27.50 per ton.

**Hay.**—Condition of deal is unchanged. Carlots on the track at Detroit are: No. 1 timothy, \$16 to \$16.50; standard, \$15 to \$15.50; No. 2, \$14 to \$14.50; light mixed, \$15 to \$15.50; No. 1 mixed, \$13.50 to \$14.

**Chicago.**—Good market. Demand good for timothy particularly. Supply light. Choice timothy quoted at \$19.50 to \$20 per ton; No. 1, \$18.50 to \$19.50; No. 2, \$17 to \$17.50.

**New York.**—Demand good. Prices higher. Large baled, No. 1 timothy, \$22; standard \$20.50; light clover mixed \$19 to \$20; heavy mixed \$16 to \$18 per ton.

**Straw.**—Detroit.—Steady. Rye, \$8 to \$9; wheat and oat straw, \$7 to \$7.50 per ton.

**Chicago.**—Quotable higher as follows: Rye, \$7 to \$8; oat, \$6.50 to \$7; wheat, \$6 to \$6.50. New York.—Higher. New rye straw, \$19 to \$20 per ton.

## DAIRY AND POULTRY PRODUCTS.

**Butter.**—Lower values and general easiness at all points except Detroit. Here quotations are nominally unchanged but lower prices are looked for before the end of the week. Quotations now are: Extra creamery, 31c per lb; firsts, 30c; dairy, 23c; packing stock, 21c per lb.

**Elgin.**—Market firm at 29 1/2c per lb., a decline of 1 1/2c from last week.

**Chicago.**—This market weakened before last week's close, the better grades declining 1 1/2c and under grades 1c. Market barely steady at the lower range. Quotations are: Extra creamery 29c; extra firsts 27 1/2 to 28c; firsts 25 to 26c; seconds 24 to 24 1/2c; ladles 23 1/2 to 24c; packing stock 22 1/2c.

**New York.**—Creameries dull and heavy with prices a shade lower. Dairies unchanged but packing goods tend toward lower values. Quotations: Creamery extras 30 1/2 to 31c; firsts 28 to 30c; seconds 25 1/2 to 27 1/2c; state dairy, finest, 29 1/2 to 30c; good to prime 27 to 28 1/2c; common to fair 24 to 26 1/2c; packing 21 to 24c as to quality.

**Eggs.**—The egg situation shows little change from last week, good stock commanding outside figures at all points. The local market is firm at last week's advance. Current offerings candled, quoted at 27c per dozen.

**Chicago.**—Market steady; no change in quotations. Quotations are: Miscellaneous lots, cases included, 17 to 25c; according to quality; do., cases returned, 16 1/2 to 24 1/2c; ordinary firsts, 22 to 23c; firsts 25 to 26c; refrigerator stock in good demand at 23 to 23 1/2c for April firsts.

**New York.**—Market quiet but former values well sustained. Offerings comparatively light. Storage supplies firmly held. Special grades of refrigerator stock are now quoted at 27c. Other quotations are: Fresh gathered extras 33 to 35c; extra firsts 31 to 32c; firsts 28 to 30c; western gathered whites 30 to 40c per dozen.

**Poultry.**—Liberal supplies of chickens last week drove prices down a fraction, but the market has cleaned up fairly well. Best quality ducks are 1c higher. Quotations: Live.—Springs 13 1/2 to 14c; hens 13 to 13 1/2c; No. 2 hens 10 to 12c; old roosters 10 to 11c; turkeys 17 to 18c; geese 11 to 12c; ducks 14 to 16c.

**Chicago.**—Although offerings are heavy this market continues in good condition, the only price reduction occurring on medium quality chickens, while springs, turkeys and ducks are quoted higher. Quotations on live are: Turkeys, good weight 20c; others 12c; fowls, general run 12 1/2c; spring chickens 14c; ducks 11 1/2 to 13c; geese 8 to 13c; guinea hens \$4 to 6 per dozen.

**Cheese.**—Steady to firm at last week's figures. Wholesale lots, Michigan flats, 15 to 15 1/2c; New York flats, 17 to 17 1/2c; brick cream, 17 to 17 1/2c; limburger, 14 1/2 to 15c.

## FRUITS AND VEGETABLES.

**Apples.**—Offerings larger and prices are a little lower. Good grades \$3 to \$3.25 per bbl., while poorer kinds, which constitute a large proportion of the bulk, are selling around \$2 to \$2.50 per bbl. At Chicago values rule from \$2.50 to \$5.25 per bbl. No. 1 Jonathan's selling best. Bulk apples are selling best now. Fruit is not keeping well.

**Grapes.**—Delawares and Niagaras 20c per 4-lb. basket. At Chicago the market is fair with receipts small. General quotation, 19 to 22c for 8-lb. baskets.

**Pears.**—Fair supply and selling at \$1.50 to \$1.75 per bu. for Bartlett's. Duchess at \$3.25 to \$3.50 per bbl.

**Potatoes.**—Deal is unchanged and prices steady. Quotations: In bulk, 60 to 65c per bu; in sacks, 60 to 70c per bu. At Chicago trade rules steady. Receipts last week 495 cars; previous week 575 cars, and corresponding week last year 440 cars. The demand is good with Michigan stock going at 60 to 65c.

**Cabbage.**—Steady at last week's figures. Good quality quoted at \$2 to \$2.25 per bbl.

## PRICES ON DETROIT EASTERN MARKET.

There was the usual number of farmers' wagons on the eastern market on Tuesday morning and buyers were plentiful enough to keep values about steady with last week's quotations. Potatoes were offered in about the same amount with good grades selling at about 80c per bu. Cabbages are more plentiful, with white selling from 40 to 50c, and red from 60 to 65c per bu. Apples are ruling from 75c to \$1.50, the majority of the offerings being very poor in quality and selling around the lower figures. Pears range from 90c to \$1.25 per bu; quinces \$2.50; lettuce 40 to 45c; endive 45c; peppers 80c to 1; pie pumpkins 50c per bu; celery 25 to 35c large bunch. Loose hay is being offered more freely, averaging \$15 to \$18 per ton.

## THE LIVE STOCK MARKETS.

### Buffalo.

October 13, 1913.

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

Receipts of stock here today as follows: Cattle 260 cars; hogs 110 double decks; sheep and lambs 100 double decks; calves 900 head.

With 260 cars of cattle on our market today, and an influx of Canadas, of the good weight grass cattle; this kind sold from 15 to 25c lower; the good fat Ohio and Indiana cattle sold about the same as last week. The market was about 10 to 15c lower on all butchering cattle that were fat, and common grades of cattle sold anywhere from 25 to 50c per cwt. lower.

We quote: Best 1350 to 1500-lb. steers, \$8.50 to \$8.75; best 1200 to 1300-lb. do, \$8.25 to \$8.50; best 1100 to 1200-lb. do, \$8 to \$8.25; coarse and plain weighty steers, \$7.25 to \$7.50; choice handy steers, 1000 to 1100, \$8 to \$8.35; fair to good do, \$7.25 to \$7.65; grassy 800 to 1000-lb. steers, \$6.50 to \$7; best cows, \$6.50 to \$6.75; butcher cows, \$5 to \$6; cutters, \$4.25 to \$4.50; trimmers, \$3.75 to \$3.85; best heifers, \$7.25 to \$7.75; medium butcher heifers, \$6.25 to \$6.50; stock heifers, \$4.50 to \$5; common stock heifers, \$4 to \$4.25; best feeding steers, \$7 to \$7.50; fair to good do, \$6.25 to \$6.50; common light stock steers, \$5 to \$5.25; best butcher bulls, \$6.50 to \$7; best bologna bulls, \$5.25 to \$5.75; stock bulls, \$5 to \$5.50; best milkers and springers, \$7 to \$8; common to good do, \$5 to \$6.

Hog receipts today totalled up about 110 double decks. With light receipts at all western markets, and good demand here, trade was 10 to 15c higher on the best grades, while pigs and lights sold from 25 to 50c per cwt. higher. It was generally a one-priced market for the yorkers and mixed \$8.90; few choice heavies landing at \$9; light yorkers \$8.50 to \$8.75; pigs \$8 to \$8.50, as to weight and quality; roughs \$8 to \$8.25; stags \$7 to \$7.50.

The sheep and lamb market was active today, but prices on lambs was 10 to 15c lower than the close of last week; most of the choice lambs selling from \$7.15 to \$7.70. Sheep market steady. Look for little improvement in prices the last of the week with moderate receipts.

We quote: Choice lambs, \$7.25 to \$7.30; cull to fair do, \$6 to \$7.15; yearlings \$5.50 to \$6; bucks \$3 to \$3.50; wethers \$5 to \$5.25; handy

ewes \$4.75 to \$5; heavy ewes \$4.50 to \$4.75; cull sheep \$3 to \$3.50; veals, choice to extra \$11 to \$11.50; fair to good \$10 to \$10.50; heavy calves \$5.50 to \$8.

### Chicago.

Received today ..... 21,000 30,000 45,000  
Same day last year..... 27,204 28,068 43,299  
Received last week..... 43,963 146,950 192,637  
Same week last year..... 53,666 104,513 203,576

The week opens with activity in cattle restricted to fat kinds, which are firm, but others are slow, prices being largely a dime lower. Hogs are active and a dime or more higher, sales ranging at \$8 to \$8.75. The hogs received last week averaged but 207 lbs., compared with 213 lbs. a week earlier, 231 lbs. a month ago, 228 lbs. one year ago, 209 lbs. two years ago, 261 lbs. three years ago and 228 lbs. four years ago. Sheep and lambs show no marked change, but choice lambs are selling at stronger prices. A sale is reported of 1,200 Montana 90-lb. feeding wethers at \$4.60.

Cattle were marketed much less freely last week than during the preceding week on account of the sharp breaks in prices, and the early days saw considerably higher prices for desirable offerings, with the highest figure for fancy steers and heifers seen this year. By Wednesday afternoon the demand became slack, packers having supplied their most urgent wants, and the market lost its advance. The bulk of the steers sold during the week at \$8.10 to \$9.30, the ordinary to fair light-weight grassy kinds bringing \$7 to \$8.25 and the best class of heavy beefs and handy little yearlings going for \$9.25 to \$9.55, only one sale being made at the top price. Good, fat cattle sold at \$9 and better and a medium to good kind at \$8.30 to \$8.95, while butchering cows and heifers sold at \$4.80 to \$9.45, with cutters going at \$4.25 to \$4.75, canners at \$3.25 to \$4.20 and bulls at \$4.85 to \$8.10. Noteworthy sales of cattle embraced 24 head of 1136-lb. Hereford, Shorthorn and Angus steers at \$9.55, 26 heifers averaging 1041 lbs., including four steers, at \$9.40, and 66 Angus heifers averaging 909 lbs. at \$9.45. There was a fairly large trade in stockers and feeders, prices advancing and afterward declining. Stockers sold at \$5.75 to \$7.60 for inferior to prime lots, feeders at \$6.75 to \$8 and stock and feeding cows and heifers at \$5 to \$7. Calves sold as usual at \$5 to \$11.75 per 100 lbs. and milch cows at \$50 to \$110 each. The close of the week saw nearly all cattle except the better class selling 15 to 20c lower than a week earlier, shipments east having shown a marked decline. Best calves brought \$11.25.

Hogs suffered several sharp declines in prices last week that enabled buyers to secure supplies at the lowest figures recorded since early in June, receipts being liberal, especially on Monday. There was a falling off in quality, and the percentage of little pigs from the cholera-stricken sections of Iowa was extremely large. There was a wide-spread feeling among traders that the packers were bent on forcing hogs to a lower level for the winter packing season. The range of prices stood the narrowest of the season, but pigs had to sell very low, especially the lightest weights. Provisions had a fairly large sale, and there was a large call for hogs and pigs for the big fresh pork trade. Published statistics showed that stocks of cured hog products in the five principal western packing centers on Oct. 1 amounted to 31,000,000 lbs. more than a year earlier, despite a decrease of over 51,000,000 lbs. in September. Lard stocks were about 25,000 tierces heavier than a year ago. Medium butcher weights topped the market, with light hogs selling at a discount. On the low day top price for hogs was \$8.55, with a rally Saturday, when hogs brought \$7.75 to \$8.65, comparing with \$7.95 to \$8.90 a week ago. Pigs closed at \$4 to \$8, boars at \$1.50 to \$3 and stags at \$8.25 to \$8.55. Throwout packing sows brought \$7 to \$7.75. Best prices were paid for hogs weighing from 210 to 250 pounds.

Lambs and sheep were marketed much more liberally last week than a week earlier, although much less freely than a short time ago, when supplies were exceeding all records. There was a fairly active general demand, but the market was uneven, with prices weakening at different times. As is the case nearly all the time, the feeder trade was the most reliable by far, and such stock sold well at steady values most of the week.

## NATIONAL CROP REPORT.

The Crop Reporting Board of the Bureau of Statistics (Bureau of Agricultural forecasts) of the United States Department of Agriculture estimates, from the reports of the correspondents and agents of the Bureau, as follows:

| Condition Oct.1, or at time<br>of harvest. |       |       |                 |
|--------------------------------------------|-------|-------|-----------------|
| Crops.                                     | 1913. | 1912. | 10-yr. C<br>av. |
| Corn .....                                 | 65.3  | 82.2  | 80.6            |
| Buckwheat ..                               | 65.9  | 89.2  | 84.2            |
| Potatoes ....                              | 67.7  | 85.1  | 76.4            |
| Tobacco .....                              | 76.6  | 81.8  | 83.1            |
| Flax .....                                 | 74.7  | 83.8  | 78.5            |
| Rice .....                                 | 80.3  | 89.2  | 87.5            |
| Apples .....                               | 46.6  | 67.8  | 54.1            |

The yields indicated by the condition of crops on Oct. 1, 1913, or at time of harvest, and the final yields in preceding years, for comparison, follow:

| Crops.        | Yield per acre. |        |          | Total production in millions of bushels. |        |       | Increase or decrease in prospects during Sept. |
|---------------|-----------------|--------|----------|------------------------------------------|--------|-------|------------------------------------------------|
|               | 1913a.          | Final. | 1912 av. | 1913a.                                   | Final. | 1911. |                                                |
| Corn          | 22.2            | 29.2   | 26.5     | 2,373                                    | 3,152  | 2,531 | +0.9                                           |
| Buckwheat     | 16.5            | 22.9   | 21.0     | 14                                       | 19     | 18    | -6.7                                           |
| Wte. potatoes | 86.7            | 113.4  | 96.1     | 319                                      | 421    | 293   | -1.8                                           |
| Tobacco, lbs. | 766.0           | 785.5  | 822.3    | 877                                      | 963    | 905   | +1.9                                           |
| Flax          | 8.7             | 9.8    | 8.2      | 21                                       | 28     | 19    | +5.0                                           |
| Rice          | 30.9            | 34.7   | 33.7     | 25                                       | 25     | 23    | -7.4                                           |

a Interpreted from condition reports.

## CROP AND MARKET NOTES.

(Continued from page 249).

vesting of cowpeas a precarious occupation. A great deal of corn has been cut for fodder and ensilage. Owing to the dryness of the ground very little wheat was planted this year. The apple crop is good. Prices range from 30c per bushel for Ben Davis, to 75c bushel for Minklers and Winesaps. As the corn crop in this county was practically a failure, many farmers are laying in a large supply of bran for winter feeding. There is almost no market for mules.

**Champaign Co., Oct. 3.**—The excessively dry summer has shortened the corn crop to about half of last year's crop, or about three-fifths of an average crop, or 28 to 20 bu. per acre in this vicinity. Corn is out of way of frost now and look for average quality. Weather is ideal at present for maturing same, and look for reasonable early husking. Late rains have been beneficial for fall plowing and pastures have become green but too late for pasture of any benefit. Some five per cent of last year's old corn held by farmers for higher prices. All farm work progressing reasonably well.

### Wisconsin.

**Clark Co., Oct. 1.**—Weather fine; had some rain lately; just enough to make plowing a little easier. Corn has all been put into the silo or shock. Potatoes will go 300 bushels per acre, selling at 50 to 60c. Threshing all done and grain was very good. Hay is scarce. Butter 28c; eggs 20c; oats 45c. Cattle selling at a very high price. Pasture is good for this time of the year. Land has been changing hands quite a little lately and prices are going up.

### Missouri.

**St. Louis Co., Oct. 10.**—Potatoes are about half a crop, being cut short on account of drought in August and September. They are worth 90c. Eggs from farmers 35 to 40c; hay scarce; oats 40 to 45c. Very few silos in this county. Corn on upland half a crop and on bottom land three-quarters of a crop. Garden truck fair, all showing the result of the past drought. No frosts to date; weather very sultry, 87 degrees.

### Iowa.

**Osceola Co., Oct. 6.**—Have had several light rains since Sept. 6 which have revived blue grass pastures again after having been all dried up for several weeks. Winter wheat sprouting after lying dormant about two weeks. Last spring's seeding of clover good, but timothy all dead on account of drought. People, in general, will finish plowing and stack threshing this week. Some will commence husking corn this week but the majority will start next week. Hog cholera is still prevalent but very few farmers escaping this dreaded disease thus far.

### North Dakota.

**Adams Co., Oct. 3.**—Been very dry season, with steady heat, but drouth is now broken by good rains. No damaging frosts up to date. Threshing done and yield poor. Wheat 3 to 12, oats 10 to 35, barley 6 to 12, flax 4 to 10, and winter rye about 10 bu. per acre. All cultivated crops very good, corn fully matured but acreage small, potatoes average crop and very good quality. Farming changing from small grain to corn and live stock. All live stock high; local prices: Wheat 70c; flax \$1.27; oats 30c; barley 57c; rye 43c; potatoes 50c.

### Kansas.

**Smith Co., Oct. 11.**—A nice rain on the 9th of September broke the continued drouth and hot weather. This rain brought up all of the early sown wheat and put plowed ground in fine shape to work down. On the 23rd of September about 2.5 inches of rain fell. The above rains and the recent ones will give the large acreage of wheat sown this year a fine start. Alfalfa will make abundance of fall pasture. Report of Smith Centre markets for Tuesday the 7th: Wheat and corn 75c; eggs 22c; butter 18 to 30c; hens 8c; springs 9c; cream 29c.

**Marion Co., Oct. 10.**—Weather warm, with frequent rains. Wheat and rye are making fine growth. Some pastures have been restocked. No seed on Kaffir corn. No weather to cut and cure it for fodder. Some corn fodder spoiling. Feed is becoming cheaper since the rains came. Alfalfa is growing fast, and there will be some that will get tall enough to cut again. Everything brings good prices at farm sales. Milch cows \$45 to \$95; hogs lower. Good inquiry for hogs and stock calves. Corn from car 79c; oats 50c; potatoes and cabbage being shipped in. Potatoes \$1 per bu; cabbage \$1.50 per cwt; apples retail at \$2.40 per box.



## THIS IS THE FIRST EDITION.

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

## DETROIT LIVE STOCK MARKETS.

## Thursday's Market.

October 9, 1913.

## Cattle.

Receipts, 1389. Market dull at Wednesday's and last week's prices on all grades; local meat trade very bad.

We quote: Extra dry-fed steers and heifers, \$7.50@8; steers and heifers, 1000 to 1200, \$7@7.50; do 800 to 1000, \$6.50@7; grass steers and heifers that are fat, 800 to 1000, \$6.50@7; do 500 to 700, \$5.50@6.25; choice fat cows, \$6; good do, \$5.25@5.50; common do, \$4.25@5; canners, \$3@4; choice heavy bulls \$6.25@6.50; fair to good bolognas, bulls, \$5.50@6; stock bulls, \$4.75@5.25; choice feeding steers, 800 to 1000, \$6.75@7; fair do, \$6.25@6.50; choice stockers, 500 to 700, \$6.50@6.75; fair do, 500 to 700, \$6@6.25; stock heifers, \$5@5.50; milkers, large, young, medium age, \$65@85; common milkers, \$40@50; extra fancy, \$90@110.

Roe Com. Co. sold Kamman B. Co. 6 butchers av 945 at \$6.50, 1 cow weighing 1000 at \$5, 4 heifers av 765 at \$6.75; to Sutton 12 stockers av 596 at \$6.25; to Applebaum 6 butchers av 491 at \$5.75; to Newton B. Co. 1 cow weighing 870 at \$4, 4 cows and bulls av 945 at \$5.25, 9 cows av 1180 at \$4.75, 2 do av 950 at \$5.25; to Taylor 13 feeders av 1000 at \$7.25, 3 do av 730 at \$7.25; to Mich. B. Co. 5 butchers av 634 at \$5.50, 2 cows av 1000 at \$6.50, 2 do av 1045 at \$5.75, 1 bull weighing 1500 at \$6.25; to Hammond, S. & Co. 7 cows av 990 at \$4.25; to Sullivan P. Co. 7 steers av 1037 at \$7.25; to Newton B. Co. 5 cows av 998 at \$5, 1 do weighing 690 at \$4; to Goodwin 4 do av 982 at \$4.75; to Grant 3 butchers av 590 at \$5.50; to Thompson Bros. 1 cow weighing 1000 at \$4.

Spicer & R. sold Sutton 1 bull weighing 620 at \$5.50; to Newton B. Co. 5 cows av 854 at \$5.50, 2 butchers av 790 at \$5.50, 2 do av 1135 at \$6, 1 heifer weighing 480 at \$5, 4 cows av 932 at \$4.75, 2 do av 820 at \$4, 2 do av 1065 at \$4.25; to Baldwin 1 heifer weighing 760 at \$6.50; to Sullivan P. Co. 2 bulls av 1255 at \$6.35; to Hammond, S. & Co. 1 canner weighing 630 at \$4.

Haley & M. sold Breitenbeck 8 cows av 991 at \$4.75, 2 do av 910 at \$4.75; to Sweet & Co. 7 feeders av 716 at \$6.75, 15 stockers av 656 at \$6.25, 3 do av 520 at \$6, 2 do av 555 at \$6.50, 4 do av 592 at \$6.25, 4 feeders av 732 at \$6.60; to Hammond, S. & Co. 2 bulls av 1345 at \$6, 3 heifers av 853 at \$6.50, 4 cows av 1025 at \$4, 20 butchers av 920 at \$7.35, 20 do av 897 at \$7.35; to Bowersox 2 feeders av 800 at \$6.80, 2 do av 805 at \$6.75, 3 cows av 1010 at \$6.25, 2 do av 800 at \$6, 5 feeders av 736 at \$6.75, 2 do av 790 at \$6.75; to Newton B. Co. 2 cows av 1100 at \$5.35, 5 do av 986 at \$5.60, 3 do av 1043 at \$4.50, 6 do av 1105 at \$5.50; to Mich. B. Co. 2 bulls av 825 at \$5.50, 1 do weighing 1450 at \$6.50; to Mason B. Co. 17 butchers av 713 at \$6.05, 10 do av 940 at \$7.25; to Grant 8 do av 602 at \$6, 2 do av 540 at \$5.25; to Bresnahan 3 heifers av 723 at \$6; to Breitenbeck 4 cows av 1025 at \$4.60, 2 do av 875 at \$4.40, 12 steers av 956 at \$7, 1 cow weighing 860 at \$4.50; to Cooke 6 steers av 1000 at \$7.50; to Hammond, S. & Co. 1 bull weighing 1600 at \$6.35; to Bowersox 2 feeders av 780 at \$7, 1 do weighing 710 at \$6.60; to Cook & W. 6 steers av 881 at \$7; to Hammond, S. & Co. 1 bull weighing 1180 at \$6, 1 do weighing 1780 at \$6.50.

## Veal Calves.

Receipts, 452. Market steady. Best, \$10@11; others \$6@9.50.

Spicer & R. sold Mich. B. Co. 2 av 230 at \$8.50, 6 av 170 at \$10, 2 av 130 at \$10, 4 av 145 at \$10, 1 weighing 190 at \$8.50, 4 av 150 at \$10.

Haley & M. sold Youngs 6 av 155 at \$5, 4 av 160 at \$10, 7 av 250 at \$5, 2 av 145 at \$10.50, 3 av 180 at \$10.50, 2 av 240 at \$10.50, 5 av 195 at \$5, 1 weighing 190 at \$9, 1 weighing 130 at \$10, 1 weighing 170 at \$11; to Mich. B. Co. 26 av 150 at \$10.25.

Roe Com. Co. sold Mich. B. Co. 7 av 160 at \$9; to Gooise 5 av 225 at \$5.50.

## Sheep and Lambs.

Receipts, 7121. Good lambs 15@25c lower than on Wednesday; common and sheep steady. Best lambs, \$7; fair to good lambs, \$6.50@6.75; light to common lambs, \$5.75@6.25; fair to good sheep, \$3.75@4.25; culls and common, \$2.50@3.

Bishop, B. & H. sold Sullivan P. Co. 86 lambs av 58 at \$6, 95 sheep av 105 at \$4.10, 3 do av 95 at \$3, 58 do av 80 at \$2.75, 27 do av 60 at \$6; to Nagle P. Co. 42 lambs av 85 at \$6, 199 do av 85 at \$7.25; to Hammond, S. & Co. 18 sheep av 104 at \$4, 14 do av 80 at \$3, 44 do av 108 at \$4, 11 lambs av 57 at \$6, 133 do av 75 at \$7, 20 do av 65 at \$6; to Young 29 lambs av 70 at \$7.25, 26 do av 70 at \$6.75, 338 do av 83 at \$7; to Hammond, S. & Co. 63 do av 75 at \$7; to Rattner 29 sheep av 85 at \$3.75; to Sutton 152 lambs av 60 at \$6.25; to Sullivan P. Co. 14 sheep av 90 at \$3.25, 67 lambs av 50 at \$5.50; to Nagle P. Co. 158 do av 80 at \$7; to Costello 38 do av 55 at \$5.50; to Parker, W. & Co. 78 do av 75 at \$7; to Sullivan P. Co. 13 do av 65 at \$6.50; to Fitzpatrick Bros. 72 sheep av 125 at \$4, 43

lambs av 80 at \$7; to Hayes 39 do av 65 at \$6.35; to Hammond, S. & Co. 37 sheep av 120 at \$4; to Young 56 lambs av 70 at \$6.75; to Nagle P. Co. 57 do av 75 at \$6.85, 34 do av 65 at \$7, 107 do av 70 at \$7. Roe Com. Co. sold Hammond, S. & Co. 41 sheep av 73 at \$3.50; to Sullivan P. Co. 11 lambs av 68 at \$6.50; to Mich. B. Co. 38 do av 80 at \$6.75, 37 sheep av 125 at \$4.

Haley & M. sold Newton B. Co. 70 lambs av 75 at \$6.75, 13 do av 80 at \$7, 20 do av 70 at \$7; to Youngs 69 do av 80 at \$7, 63 sheep av 105 at \$4.

Taggart sold Mich. B. Co. 71 lambs av 70 at \$6.75.

Spicer & R. sold Thompson Bros. 17 lambs av 75 at \$6.75, 28 sheep av 90 at \$3.80; to Hammond, S. & Co. 15 do av 100 at \$3, 18 do av 110 at \$4; to Sullivan P. Co. 18 do av 100 at \$3.50; to Thompson Bros. 21 lambs av 50 at \$6, 19 do av 55 at \$6.25; to Young 35 do av 80 at \$7; to Mich. B. Co. 8 do av 80 at \$6.75, 15 sheep av 110 at \$4; to Young 18 do av 115 at \$4, 42 lambs av 75 at \$6.80; to Mich. B. Co. 28 sheep av 105 at \$4.

## Hogs.

Receipts, 5481. None sold up to noon; looks dull at Wednesday's prices.

Range of prices: Light to good butchers, \$8.35; pigs, \$6@7.50; mixed, \$8@8.35; heavy, \$8.25@8.35.

Bishop, B. & H. sold Parker, W. & Co. 1207 av 180 at \$8.35, 817 av 160 at \$8.30, 310 av 170 at \$8.25, 103 av 140 at \$8.15.

Haley & M. sold Hammond, S. & Co. 560 av 180 at \$8.35, 190 av 160 at \$8.30, 150 av 150 av \$8.25, 107 av 135 at \$8.

Spicer & R. sold same 317 av 180 at \$8.35, 150 av 160 at \$8.30.

Roe Com. Co. sold Sullivan P. Co. 510 av 180 at \$8.35, 60 av 160 at \$8.15, 70 av 160 at \$8.25.

## Friday's Market.

October 10, 1913.

## Cattle.

Receipts this week, 1438; last week, 2520; market dull.

We quote: Extra dry-fed steers and heifers \$7.50@8; steers and heifers, 1000 to 1200, \$7@7.50; do 800 to 1000, \$6.50@7; grass steers and heifers that are fat, 500 to 700, \$6.50@7; do 500 to 700, \$6@6.50; choice fat cows, \$6; good do, \$5.25@5.50; common do, \$4.25@5; canners, \$3@4; choice heavy bulls, \$6.25@6.75; fair to good bolognas, bulls, \$5.50@6; stock bulls \$4.75@5.25; choice feeding steers, 800 to 1000, \$6.75@7.25; fair do, 800 to 1000, \$6.25@6.50; choice stockers, 500 to 700, \$6.50@6.75; fair do, 500 to 700, \$6@6.25; stock heifers, \$5@5.50; milkers, large, young, medium age, \$65@85; common milkers, \$40@50; extra fancy, \$100@110.

## Veal Calves.

Receipts this week, 536; last week, 600; market steady. Best, \$10@11; others, \$7@9.50.

## Sheep and Lambs.

Receipts this week, 7858; last week, 6720; sheep steady; lambs dull. Best lambs, \$6.75@7; fair to good lambs, \$6.25@6.50; light to common lambs, \$5.25@6; fair to good sheep, \$3.75@4.25; culls and common, \$2.50@3.

## Hogs.

Receipts this week, 5179; last week, 4892; market 5c higher.

Range of prices: Light to good butchers, \$8.35@8.40; pigs, \$7@7.50; mixed, \$8@8.40; heavy, \$8.25@8.40.

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## CUCUMBER GROWERS TAKE NOTICE.

The Farmers of Vassar and vicinity met in the Town  
Hall Sept. 27 and legally organized an association that  
shall be known as **THE MICHIGAN CUCUMBER  
GROWERS ASSOCIATION.** Any cucumber grower  
wishing further information may correspond with  
**IRA A. SCOTT, Secretary, R. 7, Vassar, Mich.**

# Horticulture.

## RESULTS OF FERTILIZING STRAW- BERRIES.

A careful analysis of the relation of  
commercial fertilizers to the strawberry  
plant and its fruit through actual tests  
extending over three years, has been  
made by the experiment station of Mis-  
souri, and the following paragraphs give  
the conclusions arrived at by the inves-  
tigators. It would be well for Michigan  
growers to compare these results with  
their own experience and observation.

Acid phosphate used alone at the rate  
of from 150 to 440 pounds to the acre,  
has, in five trial soils out of six, given a  
profitable increase in the crop. The one  
soil in which it was not profitably applied  
was a much richer one than is generally  
used for strawberries.

In six trials out of seven, acid phos-  
phate used in combination with either  
sodium nitrate or dried blood has increas-  
ed the yield over that obtained when  
either of these latter substances was used  
alone. In the one case where it did not  
increase the yield, the fertilizer was ap-  
plied in the spring and the nitrogen caused  
an exceedingly rank plant and weed  
growth so that little could be told as to  
the effects of the phosphorus.

Acid phosphate used in combination  
with either sodium nitrate or dried blood  
has increased the yield over plots receiv-  
ing no fertilizer, in only two cases out of  
eight.

Acid phosphate used in any practical  
quantities has no injurious effect on the  
plants, even when it is spread on the  
foliage.

Potassium has in no case shown con-  
clusively any increase in the yield of  
strawberries, neither has it apparently  
affected the color or quality of the fruit.  
Like sodium nitrate it is injurious to the  
plants when applied on the foliage in  
small quantities or near the plants in the  
soil, in large quantities.

Nitrogen in the form of either sodium  
nitrate or dried blood, when applied in  
the spring before the crop is harvested,  
has in every case given very injurious  
results. It causes excessive plant and  
weed growth, and greatly reduces the  
yield of fruit. While the berries are  
larger, there are fewer of them and they  
are soft and have poor color and quality.  
When the season is dry at picking time,  
the berries on plots fertilized with either  
sodium nitrate or dried blood wilt much  
worse than do those on unfertilized plots.

Nitrogen either in the form of sodium  
nitrate or dried blood applied a year be-  
fore the crop is harvested has given an  
increased yield over unfertilized plots in  
only one trial out of nine.

Where sodium nitrate or dried blood  
are applied in small quantities during  
early summer one year before the crop  
is harvested, they do not cause excessive  
plant or weed growth the following  
spring. However, when dried blood is  
applied, say 300 or 400 pounds to the  
acre, even a year before the crop is har-  
vested, it tends to cause excessive plant  
growth, and to reduce the yield and cause  
the berries to wilt worse during droughts  
at picking time.

The use of stable manure on the field  
at any time after the plants are set  
seems to have the same injurious effect,  
though stable manure used on another  
crop a year or two before the land is set  
to berries seems to benefit the strawber-  
ries in some cases, at least.

Sodium nitrate spread, even in small  
quantities, on the foliage or in consid-  
erable quantities in the soil near the plant,  
will kill it. Dried blood does not have  
this harmful effect.

## COVERING POTATO PITS.

Sometimes it is well, and even neces-  
sary, to place some of the Irish potato  
crop in a pit made above ground. This  
takes a great deal of dirt which has to  
be taken down in the spring. When we  
are placing the straw on the pits we  
put just a little next to the potatoes then  
all the dirt that we think is necessary.  
Then very near to the outside we place  
a heavy layer of straw. This method  
keeps the potatoes well, we think. When  
uncovering time comes we take this out-  
side straw off with shovels then hitch  
to the bank scraper and haul the dirt

down from the pits in a hurry. Two men,  
one scraper and a team, will uncover a  
large number of bushels in an hour. An-  
other help is to dig a trench in a well-  
drained location a couple of feet deep  
and about two and one-half feet wide,  
into which the potatoes are dumped.  
They are piled above the ground 16 or 18  
inches and over this the straw and dirt  
are put. In such a pit three or four  
times the potatoes can be covered with  
the same amount of straw and dirt re-  
quired in the ordinary pit.

Ohio.

R. E. ROGERS.

## VEGETABLE GROWERS' CONVEN- TION.

The sixth annual meeting of the Vege-  
table Growers' Association of America  
was held at Toledo, O., October 1-3. The  
attendance was fully up to former years.  
In the forenoon of the first day the mem-  
bers were welcomed by Mayor Brand  
Whitlock and George Rogers, president of  
the Toledo Fruit and Vegetable Growers'  
Association.

In his annual address, President H. F.  
Hall urged centralization of effort. He  
thinks the association should decide up-  
on one or two definite lines of action  
and devote all its energies to that work.  
He suggested a campaign for larger mem-  
bership and the encouragement of co-  
operative selling agencies, improved  
transportation facilities, uniform laws  
governing weights and measures, the or-  
ganization of local and state growers' as-  
sociations, co-operation with the experi-  
ment stations and the U. S. Department  
of Agriculture.

Prof. A. D. Selby spoke on "Plant Dis-  
eases." Since soil sterilization has been  
practiced greenhouse men have been solv-  
ing their own problems to a large extent.  
Ageing culture, as well as intensive cul-  
ture, means increase in plant diseases.  
Before the advent of soil sterilization  
plant diseases were common and so se-  
rious as to threaten crops. One of the  
most essential preventive means of com-  
bating plant diseases is to practice prop-  
er sanitary methods. In the opinion of  
those present steam sterilization is prac-  
ticed more commonly than formaldehyde  
sterilization. Lettuce drop and rosette  
survive in the soil from one season to  
another as resting spores. The bacteria  
of the fusarium wilt of tomatoes survives  
in the soil. Nematodes of cucumber and  
melons are carried over winter in the  
soil. Faulty nutrition may explain some  
unusual troubles, such as uneven ripen-  
ing of the inside and outside of tomatoes.  
For outdoor crop, sterilize soil in seed-  
bed and rotate crop to keep free of soil  
infesting diseases. To overcome foliage  
diseases use Bordeaux mixture, except  
for mildew, for which lime and sulphur  
is to be preferred. Lime and sulphur are  
not effective on tomatoes and potatoes.

Dr. W. A. Orton, of Washington, D. C.,  
talked on recent progress in control of  
plant diseases. The question as to wheth-  
er celery covered with Bordeaux mixture  
is dangerous to eat has received consid-  
erable attention by the department. The  
conclusion reached was that it would re-  
quire the eating of 23 pounds of unwash-  
ed celery at one time to be at all dan-  
gerous. One important means of over-  
coming diseases with some plants, such  
as beans, for example, is to get seed from  
disease resistant plants. Much good is  
being accomplished through the co-oper-  
ation of the Federal Horticultural Board  
and the U. S. Plant Pathologists in the  
matter of keeping dangerous new dis-  
eases from being introduced into this  
country.

In the discussion it was stated that in  
the case of celery blight spraying, to be  
effective, must begin before there is much  
development of the disease. Sprayed cel-  
ery will keep better in storage than un-  
sprayed. Dr. Orton said it is uncertain  
whether celery rust spores vary over in  
the soils. Report from parts of New  
York, Pennsylvania, Michigan and Ohio  
indicate an average crop of late celery  
except at Kalamazoo and some places in  
Ohio where the crop is short.

Prof. Forbush showed and told how es-  
sential birds are in keeping the insects  
under control. By supplying a few sim-  
ple bird houses and doing a little feeding  
in winter he showed how easy it is to  
get beneficial birds to gather about the  
home, orchard, and garden.

Prof. Gossard gave an illustrated lec-  
ture on "Insect Life." Besides using in-  
secticides judiciously he advocated en-  
couraging the development of natural en-  
emies. When in doubt as to the identity  
of any insect send specimens to the ex-  
periment station for identification.

"Co-operation was the subject for con-  
sideration Thursday forenoon. C. W. Waid  
called attention to the fact that there  
has been a decided change in the feeling  
among gardeners as a class relative to  
co-operation. Twenty-five years ago it  
was an unknown quantity, today local  
organizations are quite common. Com-  
munications were read from several or-  
ganizations in which was stated some-  
thing of the work accomplished and the  
methods used. Judging by the experi-  
ence of these organizations, successful  
co-operation requires some definite, well  
defined object. If the organization is a  
selling agency it should be established on  
a business basis with sufficient capital to  
properly take care of the business and  
with a competent, paid manager at the  
head of it. There should also be a care-  
ful system of inspection. Above all, a  
spirit of co-operation among the entire  
membership is essential.

Some of the things which co-operative  
organizations may have as their object  
are sociability; educational purposes; leg-  
islative matters; to better approach city  
officials on certain questions; to lease,  
rent or purchase market places or stalls;  
to buy supplies; to sell produce; co-oper-  
ation with the U. S. Department of Agri-  
culture and the state experiment sta-  
tions; to advertise their produce; to op-  
pose anything which may be to their  
detriment and to encourage anything  
which will benefit the growers as a class.

Prof. Paul Work, of Cornell University,  
spoke on "Local and State Organiza-  
tions." He said the value of the vege-  
table products of the United States in  
1910 was \$417,000,000, while that of all  
other horticultural products was about  
two and one-quarter million dollars, and  
tree fruits \$140,000,000. This industry is  
not going to decrease in extent. Selling  
organizations must be built from the bot-  
tom. If we need the help we must de-  
mand it. Experiment stations must be  
urged to do more for the vegetable grow-  
er. The Connecticut state organization  
has asked the experiment station to put  
a man on their staff to work for the  
market gardeners' interests.

Friday morning Dr. Coffey, of the Ohio  
Experiment Station gave a talk on  
"Soils." He said that many people con-  
sidered dirt too common to be worthy of  
study. The soil is a living medium in  
which activities are always present. The  
low forms of life found in the soil are de-  
pendent on organic matter for their food.  
The moisture supply of the soil is often  
the governing factor in crop production.  
Of the ten elements necessary for plant  
growth seven come from the soil and  
three from the air; we must fertilize soil  
as well as crop. Growers should endeavor  
to select varieties and strains of veg-  
etables suitable to the soil in use. In the  
discussion Prof. Lazenby suggested that  
it might be a good plan for this and other  
organizations to ask the railroad offi-  
cials to ship fertilizers free to encourage  
increased freights on crops. It was re-  
ported that they ship manure out of St.  
Louis at a low rate.

Mr. Thompson, of the U. S. Department  
of Agriculture, talked on "Muck Soils  
for Greenhouse." In a test carried on at  
the department last season pure muck  
taken from the East Lima, N. Y., muck  
fields gave a better yield of lettuce and  
cauliflower than any other combination  
of soils used. Muck added to the regu-  
lar greenhouse soil increased the yield of  
lettuce in every instance. Several prac-  
tical growers told of having used muck  
successfully in the forcing of vegetables.

W. J. Ritterskamp, of Princeton, Ind.,  
was elected president; H. F. Thompson,  
of Massachusetts, vice-president; Samuel  
W. Severance, of Louisville, Ky., secre-  
tary, and M. L. Ruetenik, Cleveland, O.,  
treasurer.

Permanent committees were provided as  
follows: (1) Transportation; (2) next  
meeting place; (3) membership; (4) pub-  
licity; (5) nomenclature and new varie-  
ties; (6) weights and measures.

The Vegetable and Fruit Growers' As-  
sociation and Business Organizations of  
Toledo provided most excellent facilities  
for holding the meeting and the very best  
of entertainment. The sessions were  
well attended until the very last. There  
was a small but excellent exhibit of veg-  
etables put up by the Toledo Market  
Gardeners. The meeting was one of the  
best the association has held and the fu-  
ture for the organizations looks bright.



## 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 the letter.

**Occult Spavin Lameness.**—I have an eight-year-old horse that has what is called a blind spavin; he was affected in same joint two years ago and the treatment I gave him seemed to effect a cure. Can anything be done that will effect a permanent cure? L. F., Grand Rapids, Mich.—There are two causes for spavin, one hereditary predisposition, the other exciting, such as concussion, sprain or injury of some kind to hock point. In the treatment of spavin it is important to give the horse absolute rest in order that the diseased portion of joint may ankylose and unite into a solid; otherwise, a recovery does not take place. Apply one part red diiodide mercury and eight parts cerate of cantharides every ten days. After the blister ceases to act, apply vaseline, instead of lard to soften scabs before they are washed off.

**Shoulder Lameness—Stiff Neck.**—I have a horse 22 years old that went lame in left shoulder some two months ago. Was able to use him for five weeks, but for the past three weeks he has been unfit for use. The muscles of neck are stiff making it difficult for him to put head down. A. C. Schoenhals, Hamburg, Mich.—Mix together equal parts turpentine, aqua ammonia and raw linseed oil and apply to shoulder and rigid muscles of neck every day or two. An abscess may be forming in upper portion of the shoulder or neck.

**Chronic Diarrhea.**—I have an eight-year-old gelding which has chronic diarrhea; it seems to make him weak and thin. Have given him some Watkins Liniment in feed which checks it for a day or two, but it does not affect a permanent cure. I feed oats, bran and well cured hay; same feed is given my other horses with good results. E. H., Coopersville, Mich.—Chronic diarrhea can be somewhat controlled, but is seldom cured. The quieter he is kept the better, and if driven he should go no faster than a walk. This condition of the bowels is often caused by over-heating a fleshy horse which brings on purging and he seldom gets over it. The mucus membranes become irritated and this seems to excite the sympathetic nerves which control the bowels. Select for him a good quality of hay and do not over-feed him on grain. He should be watered often and not allowed to drink too much at a time. Mix equal parts bicarbonate soda, gentian, ginger, tannic acid and charcoal and give him a tablespoonful or two at a dose in feed three times a day. Kindly understand, more could be accomplished by proper feeding and watering, than from the action of drugs.

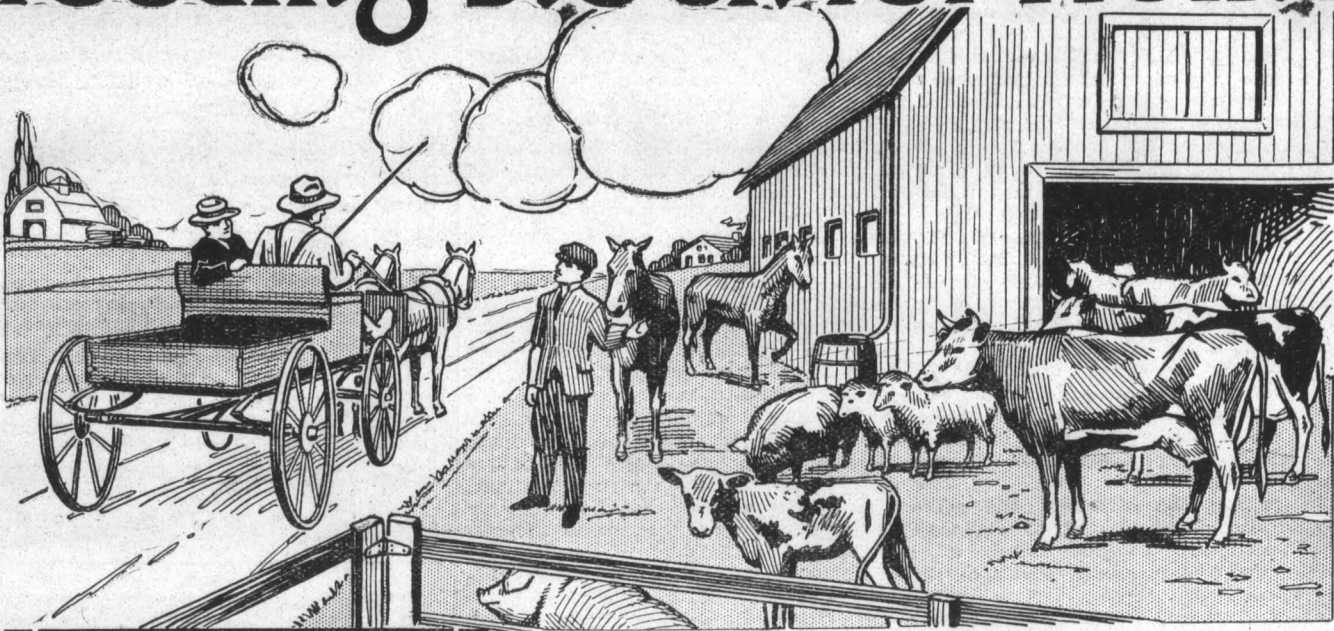
**Ringbone—Barrenness—Nasal Catarrh.**—Every week I read your veterinary column and derive much benefit from it, but failing to find a suitable reply to my cases, have concluded to write. Some two years ago I bought a ten-year-old mare that was crippled some with ringbone and they are bothering her more now, than ever before. I want to breed her, but we have failed to find her in heat this summer. I also have a cow that comes in heat regularly, has been served seven times without getting her with calf. I also have a flock of lambs that are pastured on high land which is covered with timothy, June grass and clover. All these sheep seem to have caught cold and have a discharge from nostrils which affects their breathing. A. J. B., Muir, Mich.—You should not use her for breeding purposes on account of ringbone being transmissible, but if you will give her 1 dr. of fluid extract nuxvomica, 1 dr. fluid extract damiana at a dose three times a day it may bring on heat. Dissolve 2 ozs. of bicarbonate soda in a quart of clean tepid water and wash out vagina of cow, when she comes in heat, then have her served five or six hours later, and she will perhaps get with calf. Mix together one part powdered sulphate iron and 20 parts salt and let your sheep have as much of it as they care to lick.

**Indigestion.**—Two or three weeks ago I wrote you regarding a six-months-old lamb, but presume my letter was one of those that were lost in the fall. Now, I am writing again to say that I believe my lamb has indigestion for it is losing flesh, ears droop, cease chewing cud and a sort of green colored water runs from mouth. A Subscriber, Elsie, Mich.—Mix together equal parts bicarbonate soda, powdered charcoal, ground ginger, ground gentian and salt and give lamb about two-thirds of a teaspoonful in 2 ozs. of hot black coffee as a drench three times a day. If his bowels are costive, give one part castor oil and two parts olive oil when you believe it is needed.

**Correction in State Fair Premium Award.**

In a recent issue of the Michigan Farmer the address of Maplebrook Farm, in publishing the State Fair premium awards for Dutch Belted cattle, was, through an error, given as Adrian, Mich., when it should have been Mason, Mich.

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Government experts found out recently that there is nothing like pure cane molasses, properly mixed with hay or grain to put good solid flesh on horses that are thin, scrawny and almost useless for work.

It will develop great muscular energy in horses in a short time, giving them a glossy coat, and freedom from all diseases of the digestive tract.

It will fatten cattle quickly and cheaply, and keep your cows in a healthy, milk-producing condition.

It will fatten sheep and hogs, and drive out worms, and other diseases that make your stock unfit for market. You will get from 10 to 20 per cent. more in cash from animals fed from Buckeye Feeding Molasses.

Buckeye Feeding Molasses is cheaper than other feed. It not only gives better results, but is cheaper to feed, to say nothing of the saving in veterinary bills.

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We sell Buckeye Feeding Molasses on a fair and square trial plan, that takes all the risk out of the transaction. We ship your order at the following prices:

\$2.50 for 10-Gallon Can, Freight Prepaid.  
\$5.40 for 30-Gallon Half-Barrel, F. O. B. Detroit.  
\$7.50 for 50-Gallon Barrel, F. O. B. Detroit.

**15 CENTS** a gallon is a remarkably low **17 CENTS A GALLON**  
F. O. B. price to pay for this won- Freight Prepaid to  
DETROIT derful Stock Food. any part of U. S.

Don't lay this paper down with the idea that we are asking you to try a costly experiment. We are showing you a way of saving money. As a shrewd business man, it is up to you to give our proposition a trial, especially as YOU DON'T RISK A CENT. If you want to know about our business standing, write First National Bank, Detroit, or R. G. Dun & Co., Detroit.

Fill out the coupon, and mail it to us today.

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**O. I. C. SPRING BOARS** and Fal Pigs and JOHN BERNER & SON, Grand Ledge, Mich.

**Duroc Jersey Hogs**—Have a few bred gilts, and spring boars, prize-winning strain. W. C. TAYLOR, Milan, Mich.

**Duroc Jersey Boars** For Sale, of the large growthy Stallions 1-yr.-old. M. A. BRAV, Okemos, Mich.

**Duroc Jerseys**—20 Spring Boars Ready to Ship. CAREY U. EDMONDS, Hastings, Michigan.

**Durocs**—25 High Class Spring Boars. Excellent quality and Breeding. Write or come and see. J. O. BARNEY, Coldwater, Mich.

**Duroc Jerseys**—Spring boars from prize-winning strains. Sows all ages Brookwater Farm, R. F. D. No. 7, Ann Arbor, Mich.

**BIG TYPE DUROCS**—March and April Boars, ready for service. Pairs not akin. Also Shropshire Rams for sale. F. J. DRODT, R. No. 1, Monroe, Mich.

**DUROCS**, Good Enough to Ship Without the Money. KOPE KON FARM, Kinderhook, Michigan.

**Duroc Jerseys** For Sale—Three fall boars, also spring pigs, either sex; of finest breeding and individual quality. John McNICOLL, Station A, R. 4, Bay City Mich.

**ESSEX PIGS**—We are offering just now some very choice young Essex Pigs. No better time to get something good at reasonable prices. E. P. OLIVER, Flint, Mich.

**Poland Chinas and Single Comb White Leghorns.** B. M. WING & SON, Sheridan, Michigan.

**LARGE STYLED POLAND CHINAS**—Spring and summer pigs. Also Oxford bucks and buck lambs at close prices. ROBERT NEVE, Pierson, Mich.

**POLAND CHINAS**—Both Western and Home Bred. Either sex, all ages. Prices right. W. J. HAGELSHAW, Augusta, Mich.

**P. C. MARCH AND APRIL PIGS**—The long-bodied kind. Guaranteed to please. R. W. MILLS, Saline, Michigan.

**FOR SALE**—Poland China Boars, March and April farrow. Prices right. G. W. HOLTON, R. No. 11, Kalamazoo, Mich.

**POLAND CHINAS**—Choice lot of spring pigs, either sex. Prices right. L. W. BARNES & SON, Byron, Shiawassee Co., Mich.

**Butler's Big Bone Prolific Poland Chinas**—Big boars ready for service, weigh up to 250 lbs. not fat, from big prolific sows that not only farrow big litters but raise them. Write for what you want. J. C. BUTLER, Portland, Michigan.

**LARGE TYPE P. C. FALL PIGS** all sold. Have the greatest bunch of spring pigs I ever raised. Eight sows farrowed 86. Come or write. Expenses paid if not satisfied. Free livery from Parma. W. E. Livingston, Parma, Mich.

## Poland China Spring Boars and Sows

of size, bone and quality. I ship c. o. d. Write me at once.

**WM. WAFFLE**, Coldwater, Mich.

**POLAND CHINAS**—Either sex, all ages. Something good at a low price. P. D. LONG, R. No. 8, Grand Rapids, Michigan.

**YORKSHIRE Swine**—We have some nice spring pigs now ready for sale. Write for description and prices. OSTRANDER BROS, Morley, Mich.

**350 BIG TYPE MULE FOOT HOGS**—All ages for sale. Prolific and hardy. Best breed for Michigan. Also Pories. J. DUNLAP, Box M, Williamsport, Ohio.

**YORKSHIRE SWINE**—Young boars ready for service. Also spring farrowed gilts and Aug. farrowed pigs for sale. Pairs not akin. GEO. S. McMULLEN, Grand Ledge, Mich.

**Large Yorkshires**—Pigs farrowed in August from prize winning stock, for sale. JONES & LUTZ, Oak Grove, Michigan.

**IMPROVED LARGE YORKSHIRES**—Sows and gilts bred for September and October farrow. Service boars. Pigs all ages. Breeding and prices upon application. W. C. COOK, R. 42, Ada, Michigan.

## Lillie Farmstead Yorkshires

Spring gilts, splendid ones. Fall pigs, either sex. Gilts bred for Spring farrow. EOLON C. LILLIE Coopersville, Michigan.



# Poultry and Bees.

## FATTENING GEES.

The methods of fattening geese vary. As a rule, the fowls, which have previously enjoyed their liberty, are placed in a roomy shed, preferably one littered with straw, to undergo about four weeks' special feeding. Generally, they are fed twice a day, once on soft food and once on hard, morning and evening.

The morning mash consists of equal parts of barley meal and sharps mixed with water or, better still, if the best results are to be achieved, skim-milk. In the evening, some good, sound barley or wheat, preferably used alternately, is given, the grains being steeped in water for a few hours prior to feeding to make them more digestible.

If it is desired to put on flesh rapidly corn meal is sometimes added to the soft mash, but only for the first two weeks. If its use is prolonged it is apt to impart a somewhat unpleasant flavor to the flesh.

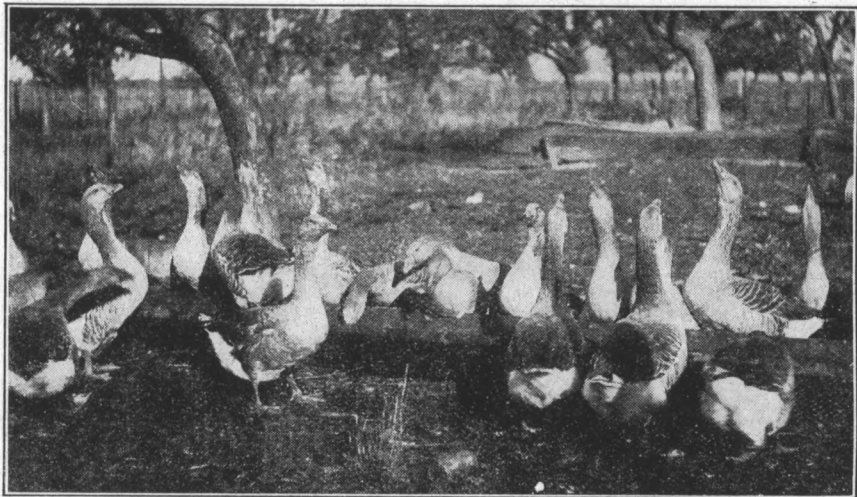
In feeding the soft food the geese should only be permitted to eat until they turn from the feeding troughs, after which any food remaining should be removed.

Chopped vegetables should be freely given between times. Grit, also fresh water (as much as they will drink) are essential from start to finish. Geese fat-

fact that turkeys will, from the time they are eight weeks old until winter sets in, obtain the greater part of their living from the bugs, grasshoppers, waste grain and weed seeds picked up in their wanderings over the farm, ensures their maintenance throughout the summer at a low cost to the grower.

Breeding stock should always be selected from the flock in the fall, before any have been marketed, at which time the choicest specimens can be picked out. Those selected probably would bring a little more money than some of those marketed, but they are also worth more as breeders than the poor ones. Strong, active, healthy birds—those that have never been afflicted with a serious disease—are wanted if the future turkey crops are to prove profitable. If the beginner wishes to start operations with stock rather than with eggs, the fall is the best time to obtain such stock; the birds will then have ample time to become acquainted with their surroundings. The old turkey raiser should separate his breeders from those that are to be marketed before fattening commences, as breeding stock is easily injured by becoming overfat. If necessary to confine any of them during the fattening period, let it be the breeders.

While it is desirable to have fine, uniform, well-fitted breeders of a good



First Call for Breakfast from a Branch of the Feathered Family.

A portion of an excellent flock of pure-bred Toulouse geese maintained by Mrs. Michael Heemer, of Sanilac County.

tened in this manner should make rapid headway and turn the scales at a good marketable weight when ready for killing. Canada. W. R. GILBERT.

## SELECTING THE BREEDING TURKEYS.

As the demand for turkeys during the holidays has far exceeded the supply for many years, it may be taken for granted that turkey prices will continue to roost high around Thanksgiving and Christmas. Roast turkey is a popular delicacy and it will continue such as long as the American people maintain their identity, no matter what the cost. In these days the cost of an article of luxury doesn't cut much figure as long as that article best suits the taste of the consumer. So, unless the cost of production increases materially, turkey growers will continue to realize large profits. Certainly the field is an open one for all farmers who care to enter it.

The fact is generally appreciated, however, that turkey raising is a distinct and separate business from that of raising chickens; the nature of the turkey is so different from that of the chicken that it requires different management altogether. The turkey still retains many of its wild habits. Then, of late years, serious diseases have played sad havoc with the business in many parts of the country. Blackhead, particularly, has carried off many thousands, compelling some of the largest growers to quit the business. Blackhead seems most prevalent, however, in those sections where turkeys have been raised for a number of years; the farmer who has never had turkeys on his farm is not likely to suffer, provided he starts with perfectly healthy stock.

When diseases can be avoided, the cost of raising a turkey is less than that of raising a chicken, while the former weighs more and sells for more per pound. The

breed, a start can be made with sound and healthy mongrels or crosses, then working towards an ideal. Many people neglect to obtain stock before spring, and at that season breeding turkeys of any kind are usually so scarce that there is not much chance to obtain choice stock, and the beginner generally finds it best to purchase eggs rather than stock. Turkey raisers who have more eggs in the spring than they wish to set themselves can always find a ready sale for the surplus; indeed, many breeders make a specialty of selling eggs for hatching and find it profitable, as a sitting of eleven eggs, from pure-bred stock, sells for from \$2 to \$5.

Up to their fifth year turkeys are profitable as breeders, though it is a good plan to change gobblers every year, especially if some of the young females are retained for breeding. Hens are not fully matured until two years old and they are at their best during the next two or three years. During the mating season the proper proportion in which to divide the sexes is from six to ten hens with one gobbler, although successful hatches are often obtained when a larger number of females are allowed to each male. When turkeys are properly mated the eggs are usually very fertile.

The breeding stock should receive good care during the winter months. Without proper care and attention, as well as suitable quarters, turkeys will not go through winter in good health, and, consequently, will not be in such good condition for the breeding season, and that means poor success with the young. Young turkeys bred from healthy stock are hard enough to raise, without the extra handicap of none too healthy parentage.

Turkeys do not want damp, stuffy quarters in winter. A well-lighted open shed or loft, fitted up so as to prevent direct drafts but having good ventilation at all times, makes a good place. Tur-

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Mayer Honorbilt Shoes lead in style and are unapproached in wearing qualities. They look, fit, feel and wear right. They give you the latest style, absolute satisfaction, and genuine comfort. These splendid shoes are not equalled by other shoes selling at anywhere near the same price.

### Made for Lasting Service

Only the choicest upper leather, fine oak tanned soles and the best of materials go into Mayer Honorbilt Shoes. They are made to last and hold their shape. Buy Mayer Honorbilt Shoes and get the greatest shoe values obtainable.

**WARNING**—Always be sure and look for the Mayer name and trade mark on the sole. If your dealer cannot supply you, write to us.

We make Mayer Honorbilt Shoes in all styles for men, women and children: Drysox, the wet weather shoe; Yerma Cushion Shoes; and Martha Washington Comfort Shoes.

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For Men  
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THE thick, soft, protecting fleece of Lamsdown brings Winter warmth and comfort. The strong weave assures two seasons' wear.

## Lamsdown Fleece-Lined Underwear

Lamsdown is the reliable fleece-lined underwear. Lamsdown Union Suits deserve all their popularity because of their exact proportions and smooth, easy fit. Physicians say Lamsdown is the great health underwear, preventing colds and gripe.

### For Men and Boys

At your dealers. In separate as well as Union garments, at 50c and up. Look for the Bodygard Shield—it is your safeguard.

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Makers of Bodygard Underwear including Vellastic, Twolayr, Springtex and Celtes.

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and keep the dealer's profit in your own pocket. We sell you at exactly the same price as your dealer would have to pay us. We protect you with

### Our Guarantee

that every sheet must be perfect, full weight and brand new or it doesn't cost you a cent. It pays to buy this kind of roofing. While we sell it to you for the same or less money than ordinary competitive quality roofing, it is much cheaper in the end. Besides

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and our price list shows exactly what your roofing would cost laid down at your railroad station. Send today for catalog and samples Free.

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## New Scientific No. 20 Mill



Heavy steel legs and steel hopper. Most efficient and strongest small power mill ever built. Will grind corn, shelled corn, oats and all other small grains to any desired grade, from hominy feed to meal.

### Fully Guaranteed

Equipped with flywheel, cold rolled steel shaft, end thrust ball bearing and 8-inch high carbon grinding plates. Two sets of plates furnished with each mill.

Adapted for use in any locality. We stand back of every claim we make for it. Write for descriptive catalog. THE BAUER BROS. CO., Box 508 Springfield, Ohio

**WANTED**—Men and women for Government positions. Examinations soon. Conducted Government Examinations. Trial examination free. Write, OZMENT, 17 E. St. Louis.

## POULTRY.

Barred Rock Cockerels and Hens, Bargain Prices  
W. C. COFFMAN, R. No. 6, Benton Harbor, Mich.

PRIZE WINNING Barred Rocks, R. I. Reds, High quality, low prices. 500 Indian Runner and Pekin ducks, \$5 per trio, circular free. EMWOOD FARM, R. R. No. 13, Grand Rapids, Mich.

COLUMBIA Wyandottes, Winners at Chicago, Grand Rapids, South Bend and St. Joseph. Stock and eggs. RICHARD SAWYER, Benton Harbor, Michigan.

If You Want Eggs Next Winter buy Pine Crest White ORPINGTON Pullets, the perfect egg machines. Write for prices. Mrs. Willis Hough, Pine Crest Farm, Royal Oak, Mich.

SILVER LACED, golden and white Wyandottes. Eggs for hatching at reasonable prices; send for circular. Browning's Wyandotte Farm, R. 30, Portland, Mich.

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

WHITE LEGHORN COCKERELS—Wyckoff Strain. Maple City Poultry Plant, Box C, Charlotte, Mich.

White Wyandottes—Noted for size, vigor and egg production. 1913 circular ready in February. A. FRANKLIN SMITH, Ann Arbor, Mich.

## DOGS.

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of the best English strains in America; 40 years experience in breeding these fine hounds for my own sport. I now offer them for sale. Send stamp for Catalogue. T. B. HUDSPETH, Sibley, Jackson Co., Mo.

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# Grange.

Wayne Co., with Belleville Grange, Saturday, Oct. 18.

Eaton Co., with Delta Mills Grange, Saturday, Oct. 18. Prof. French, of M. A. C. will talk on "Agriculture in Rural Schools."

Western (Ottawa Co.) with Conklin Grange, Friday and Saturday, Oct. 17 and 18. L. C. Root, state speaker.

Ingham Co., with Wheatfield Grange, Wednesday, Oct. 22. County School Commissioner Searles, state speaker.

The hour for adjournment having arrived, the remaining numbers on the program were deferred until the November meeting, which will occur on Nov. 18, being changed to this date to accommodate those members who may desire to attend meetings to be held by another society on the regular Club date.—Cor. Sec.

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I want you—the man who is holding this paper in his hands right now—to write to me right away. I'm making a special appeal to readers of Michigan Farmer. I've got something special to offer every one of you. I know what kind of farmers read this great paper. They're my kind—the up-to-date, wide-awake kind—the kind I like to do business with.

You know what I've done in the past—saved more money for the farmers of this country and given them a squarer deal than any other manufacturer. That's why I've been able to build up a mammoth business here in so short a time. Now, this year I'm going to break all my own records. And I'm going to do it by putting some special propositions right up to the best farmers in the country. I'm going to make you some offers that are so amazing that you simply can't get away from them.

Over one hundred and twenty-five thousand farmers know by actual experience that

## The Only Way Is THE GALLOWAY

And I want you to be the next one. I want to show you just what a man can do for you when he will sell you direct from his own factories to your farm. I want you to see for yourself what an amazing difference it makes in prices when you don't have to pay one single middleman's profit. Write me—you won't be under the slightest obligation. Just get this wonderful story. I'll show you how you can save hundreds of dollars in the next year alone. I'll give you the evidence—then let you decide. Send me the coupon, or a postal or letter, right now.

### I'm Going to Tell You Some Inside Facts About My Business

I haven't any secrets about my business. The more my farmer friends know about my affairs the better I am satisfied. I've made good—but I know that every bit of my success is due to the fact that every single man who does business with me has found that he can trust me absolutely.

I'm a farmer myself—always have been and always will be. I was born and raised on a farm and I know what you're up against when it comes to buying right, because I've been through the mill myself.

That's why I got into this business. I used to sell farm implements for other people. I didn't keep at it very long because I saw with my own eyes every day the actual evidence that convinced me that the farmer simply couldn't get a square deal and his money's worth so long as he had to pay a lot of middlemen's profits which were always loaded onto the real value of the goods. Why, I could tell you of any number of cases where the profits were so much greater than the real value of the goods that it seems almost unbelievable.

I made up my mind to see if the cheaper and better way wasn't to manufacture my own goods—making them just the way that they could be made—and selling them direct to the farmers at actual factory cost with only one very small factory profit added. I started out in a small way because I didn't have much money. But it didn't take long to prove that my faith in the intelligence and buying judgment of the men on the farms was founded on solid rock. My business has been tremendous right from the start. My profits have been small—smaller than almost any other manufacturer in the country. And I'm going to keep 'em that way. I'd rather make a small profit and sell a lot of goods than a big profit on a few goods.

Of course, I've made enemies among the other manufacturers who tell me I am "spoiling business." I'm sorry, because I don't like enemies—but I am working to help you get your goods at a fair price. Naturally the dealers don't like me very well, either, for I stand in the way of their big profits. That's a lot of them have gone out of their way to misrepresent my business. They can't do that very well any longer, now, for I've made a \$5,000.00 Challenge Offer to any man or company in the world who can prove that every word of Galloway's story is not true right down to the last detail, or can disprove any statement or claim I make. I'll send you a copy of this challenge offer when you write me. Besides that, I protect every single man who does business with me with a \$25,000.00 Cash Guarantee Bond that makes it just as easy for you to do business with Galloway as with the United States government.

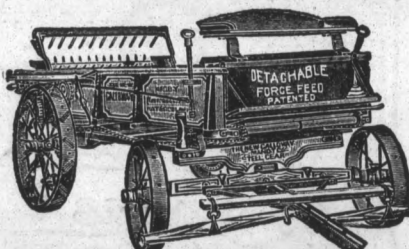
Now, I want you to find out just what all this means to you in cold, hard cash. I've enlarged my line tremendously for 1913. I am offering more bargains and bigger bargains than I have ever been able to before. I want you to get the proof for yourself.

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I'll save you money on practically everything you need for the home, farm or family. When you see the amazing bargains—hundreds of them—that I am offering in this big 144-page book you'll say: "Well, I didn't think such things were possible." Farm machinery, tools, buggies, harness, clothing, furniture, house furnishings—everything at the same amazing, rock-bottom prices and on the same wonderfully liberal plan. You can't afford to be without this book one single day longer. It's FREE. Send for it right away.

### Don't Send Me One Cent! I'll Ship You This Spreader FREE



#### Use It 30 Days On Your Own Farm FREE!

Not one cent down. No bank deposit. Keep your money in your own pocket. I just want you to TRY my new spreader, that's all. Try it right on your own farm for a whole month FREE. Test it out as you wouldn't think of testing any other spreader in the world. Fill on the manure a foot and a half above the box. Put on all she'll hold! Take the fine powdered stuff or the toughest, heaviest, trampled-down, slough-hay kind from the calf-yard. If it's frozen, so much the better. Take it into your field, whip your team to a gallop and *slam it in gear!* Say, I know that's an awful *sent!* So do you think for a minute I'd ship you a spreader and let you abuse it that way if I didn't know it would make good? I know what I'm doing. I've made the same offer for seven years, and the Galloway today is better than ever. 40,000 farmers have proved it. Besides giving you the best spreader made at any price

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Try the Galloway and see for yourself what it will do. The best proof of all is the machine itself. Eleven patented features all exclusive with the Galloway: Double drive chains furnishing power from both wheels alike direct to the beater and moving the load. The only endless apron force feed, roller-bearing feed spreader built. Makes the Galloway worth \$25 more than any other spreader sold today. Low down; easy to load; light draft, two horses will handle it easily. Full between wheels entirely on the reach, and many other special features. I can't tell them all. Just get my catalog before you buy any other make or style of spreader. Nine different styles and sizes to select from. You are certain to find just the machine you need most for your purpose. Write me. Get my free Spreader Book, and valuable FREE book of information, "A Streak of Gold." Write now, today.

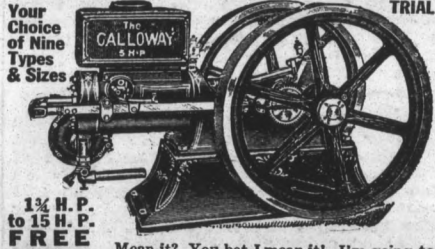
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Mean it? You bet I mean it! I'm going to make you an offer right now that you absolutely can not afford to refuse. Listen to this: I'll let you use a superb, 1913 Galloway Gasoline Engine right on your farm for a whole month absolutely free. If that isn't long enough, just say so and I'll let you keep it for a month or even two months longer. I'll let you pick out any one of my nine different models you want, I'll let you put it to any test you want. I want you to compare it point by point with any engine on the market, and I don't care what the other engine costs. I'll put the Galloway up against any other engine, absolutely regardless of price. But, remember, when you buy from me, I'll save you \$50 to \$100.

Can you beat that? Never! I'll put the whole thing right square up to you. You handle the engine yourself—make it do your work day after day for one month, two or three. I won't send any salesman or dealer around to help you make up your mind. I know I can bank on my engine and your judgment. Your word goes. Take the skin-milk from one machine and run it through the other—that will tell the story! Then examine its wonderful patented features. See how simple it is—how easy to operate and how very, very easy to clean. See how perfectly it is made in every single part. And notice the new improved features that make it the most sanitary separator built.

Take a month if you want to or keep it two or even three months if you prefer. Then decide. I won't hurry or bother you in any way. If you think that there is any other separator in the world at any price that you would rather have than the Galloway, just ship it right back to me at my expense. I'll agree right now to pay all the freight both ways, so that you won't be out a penny or under the slightest obligation if you decide not to keep the separator. Write for it today!

If you decide to keep it, I'll guarantee to save you from \$30 to \$50, besides giving you a separator that absolutely has no equal in the world at any price.

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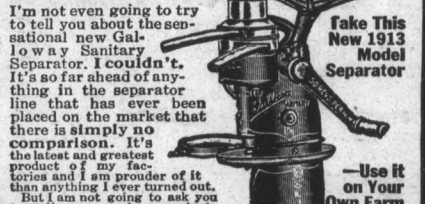
I've got a bunch of engine experts that you can't beat anywhere in the country and their services are at your command absolutely without charge. They'll help you solve every one of your engine problems. Tell you just which engine best suited for your particular purpose, how to fit up your power house, how to handle your engine and use it to best advantage. This service is free to you always, whether you buy an engine from me or not.

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Then, I'll let you try my New Improved Galloway Sanitary Separator any way you want. I'll send you one of these wonderful new separators, any size you want, right to your farm for 90, 60 or 90 days' trial absolutely free. I want you to test it out every way that you can think of. Compare it with any other machine that you know of, no matter what the price. If anybody else is trying to sell you a separator, make them let you take their machine and set it right up by the side mine. Take the skin-milk from one machine and run it through the other—that will tell the story! Then examine its wonderful patented features. See how simple it is—how easy to operate and how very, very easy to clean. See how perfectly it is made in every single part. And notice the new improved features that make it the most sanitary separator built.

Take a month if you want to or keep it two or even three months if you prefer. Then decide. I won't hurry or bother you in any way. If you think that there is any other separator in the world at any price that you would rather have than the Galloway, just ship it right back to me at my expense. I'll agree right now to pay all the freight both ways, so that you won't be out a penny or under the slightest obligation if you decide not to keep the separator. Write for it today!

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Get my new 1913 Separator Book right away. Pick out the machine you want—tell me and let me send it to you for three months' use and trial free. I want you to have my new 84-page Dairy Cow Book. It's chock full of valuable information that will help you make your dairymore profitable. Regular price \$1.25, but free to you if you send for my separator catalog. Just use the coupon or a postal or letter. Write me TODAY sure.

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