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Potato Pointers for the General Farmer

By N. A. CLAPP

THE potato is the most popular and universally used as food of all the vegetables grown. It is a native of the mountainous regions near the western coast of South America, and since its discovery during the sixteenth century, its merits have become known and it has become a staple article of food for the millions of peoples which inhabit the temperate regions of the globe.

The potato is generally considered one of the most, if not the most, economical food products produced. It is generally estimated that on the same amount of ground that a bushel of wheat can be raised, thirty bushels of potatoes can be produced. While a bushel of potatoes does not contain the food value equal to a bushel of wheat, the potatoes mix in with other foods and help to make up an economical and satisfactory meal, in fact, the masses of people in the temperate zone have become so habituated to the use of potatoes as food that they miss them greatly if deprived of them. Potatoes are usually served with meat, and meat is a stimulant, which, when mixed with potatoes, which are rich in starch that helps to keep up the heat and energy of the body, and these taken with wheat bread which contains nutrients that build up bone and muscle, makes a very satisfactory ration for all classes.

The importance of the potato crop is so well understood at the present time that political economists are urging the necessity of more attention being paid to the growing, harvesting, storing and marketing of the crop. That there are many places where wastes are unnecessarily sustained, these thoughtful ones are very willing to admit. It is, therefore, worth the time and effort to make the potato crop a study in order that better results can be secured, and the masses be better supplied with this desirable article of food at a reasonable price.

Crop Requirements.

The successful production of a good crop of potatoes depends on: First, the right kind of soil; second, an abun-

dant supply of plant food; third, good seed of the right varieties; fourth, a constant supply of moisture; fifth, good culture; sixth, thorough spraying, and seventh, favorable climatic conditions.

First, the potato experts will tell us that the best potato soil is a well drained sandy or gravelly loam or clay loam soil containing an abundance of humus. We do not all have ideal potato soil, but are obliged to use such soils as we have. If what we happen to have is not what we call ideal soil, we may by intelligent management change it somewhat and compel it to produce a fairly good crop when we will find ourselves in the fall of the year in a much better condition than we would be if we had not tried to raise potatoes at all. If the soil is pretty clayey we can enrich it with barnyard manure, plow it well, moderately deep, and work it to loosen it

and not pack it. If it is inclined to be lumpy, roll it and then use the spring-tooth harrow afterwards. If the soil is rather light sand, manure it and plow it and then work it so as to pack it. Often good crops of potatoes can be raised on such soils. As a rule soil for potatoes should be mellow and loose, but the light sandy soil produces better if compacted. The ideal soil can be worked to loosen it as well as kill the weeds and retain the moisture and good results will generally follow.

The Plant Food.

The supply of plant food can be furnished from several sources. At first we think of a June clover sod for the decaying clover roots have within them much that the potato plants need. In the first place we expect that there will be present nitrogen which has been gathered and stored by the nitrogen gathering bacteria the previous year, and that the clover roots have

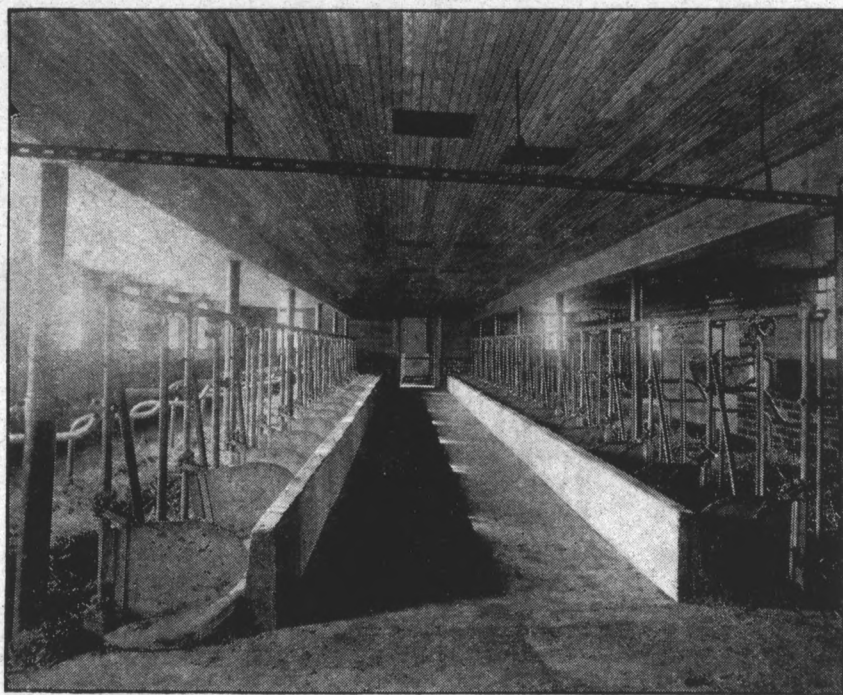
brought up from down deep in the ground considerable quantities of the mineral elements that the vines and tubers can use to good advantage. Another supply of plant food may come from barnyard manure. The best manure I ever found for potatoes is sheep manure plowed under early in the spring. The next best for general use is cow manure. If horse manure is used it should be spread on the ground in the fall or early winter and plowed under early. If horse manure is applied in the spring, especially on heavy soils, it seems to attract angle worms, which are prone to chew on the skin of the potatoes, making them rough, which reduces their value.

Potatoes do well following the corn crop which was planted on a clover sod that was well manured before it was plowed. In this case the manure has become so well rotted that it does not seem to attract the angleworms. Many are frightened if they have any worm-eaten potatoes, seeming to think they have potato scab.

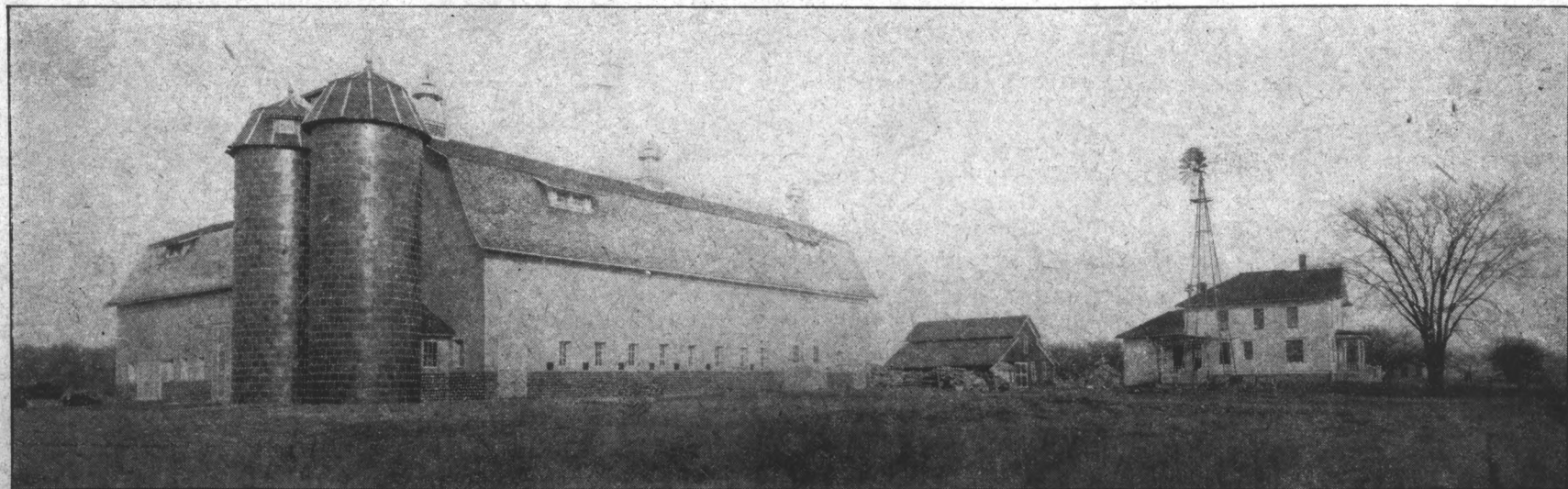
Good Potato Seed.

It is a matter to be regretted that during the present season there is not going to be an opportunity to display very good judgment in the matter of selecting the seed. Most farmers will have to use such seed as they happen to have or can readily secure. We must admit that the seed is one of the governing factors in the production of a crop of potatoes. There is a wide difference in varieties and also a wide difference in the strains of the same variety. Seed from a branch of a variety that has been bred for several years for the right kind of tubers and for productiveness, will give much better results than that from the same variety which has been handled in an indifferent manner. There are some things that can not be changed by selection and breeding, such as color of tubers and length of period for their growth and maturity. Early varieties can not be changed to late by planting late, or late varieties to early by planting early, but shape of tubers

(Continued on page 583).



Interior of Cow Stable in Mr. Leland's Barn.



Dairy Barn Typical of the Best Modern Construction, Recently Built on the Farm of J. D. Leland, of Shiawassee County.

The Michigan Farmer

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DETROIT, MAY 12, 1917

CURRENT COMMENT.

Both houses of congress have now passed the emergency army bill providing for the raising of needed army units by selective conscription. Differences of opinion still exist between the two houses with regard to the proper age limit which should be made the basis of such conscription. Both have agreed on the minimum age limit as twenty-one years, but the senate fixed the maximum age limit at twenty-seven years, while the limit designated by the house was forty years. At this writing, this difference of opinion is being ironed out in a conference committee composed of members of each house of congress, and ere this paper reaches the reader, the issue will have been decided probably by compromise.

Notwithstanding the strong opposition to any form of conscription which developed in many quarters, a majority of careful students of the problem have seemed to agree that selective conscription is unquestionably the fairest method of raising necessary army units. It is also generally conceded that his method of raising an army will cause less industrial disturbance than any other plan which could be adopted. A careful analysis of the situation will, we believe, convince almost any fair-minded man of the soundness of this reasoning. The volunteer system is certain to take the most patriotic young men from all walks of life, regardless of the value of their services to the nation in other capacities. While it is true that these early volunteers might be of a higher military type than the men who would be taken through selective conscription, it does not follow that the military strength of the nation would be thereby increased; in fact, it is probable that just the opposite would be true.

The fact that we are facing a grave emergency in which time is a most important factor must also be taken into consideration, and the operation of the selective draft will be at once more rapid and more certain of definite results, which are essential to the planning of a military campaign, than would be possible of attainment under the uncertainty of any system of voluntary recruiting.

Selective conscription will enable the government to bring together a class of men physically well suited for the making of soldiers, including a large class which are of comparatively small industrial value who would undoubtedly be benefited by military discipline, and leaving in the industrial field for the present at least, those whose services are of just as great value at the present time in the feeding

of the nation and in the manufacture of needed equipment which requires skilled labor for the best results. This plan is in line with the experience of England, where it was found necessary to call back large numbers of the early volunteers to speed up industrial production along these lines.

It must also be remembered that if the war in which we are now launched should continue for a period of years rather than of months—which in the light of recent history none can well declare impossible—the general registering of men of military age within the limits of the draft law will place in the hands of the government data which will be most valuable in case it becomes necessary to raise an industrial army as well as an army for actual field operations, which is well within the limits of reasonable possibility.

In this hour of national crisis there seems no good reason why the pick of our young men badly needed upon the farms for the production of food stuffs and in other industries where skilled labor is a valuable asset to the government should, because of their superior patriotism, be called upon to bear the burden of field operations in the country's behalf. There will still be enough room for the exhibition of this superiority of patriotism through the need of volunteers to fill the ranks of the regular army and the National Guard.

Recruiting should, we believe, also be encouraged under the plan submitted by Col. Roosevelt for the raising of army divisions for early service in France. But for the raising of a great army such as may ultimately be needed for home defense, if not for expeditionary uses, the plan of selective conscription seems best suited from every standpoint, and we believe that it will receive the general approval of the thinking people of the country after a full analysis of the problems involved.

Pursuant to a meeting held at Saginaw with the State Food Preparedness Board,

the Michigan Bean Jobbers' Association took the action reported in our last issue. Since that meeting the association has issued a circular stating that while there is a shortage of sufficient seed beans in some districts of the state, there is a surplus of seed in other sections, and under the arrangement consummated at Saginaw, farmers who apply to their local elevator for seed beans will be provided through that medium with seed at cost.

A census made to determine the amount of seed beans held at elevators in the state shows this amount to be sufficient for the planting of an increased acreage of this crop. All that will be necessary will be to ship the surplus supply from points where it exists to sections where there is a shortage of the seed, and no seed beans will be offered outside of the state until home needs have been supplied.

As a means of facilitating such distribution of the seed, the association under whose auspices the distribution will be made have requested that farmers needing seed beans notify the local elevator man at the earliest possible date, in order that the need may be anticipated.

The Assurance of Good Prices.

In another column of this issue will be found a carefully prepared article relating to the probable effect upon war prices should the war be unexpectedly and suddenly terminated. Every reader should carefully study this analysis of the situation and then promptly dismiss any fear of low prices for this season's crop, regardless of unexpected developments. The statistical position of every food stuff is so strong as to be a practical assurance of profitable prices for staple products during the coming year.

Also, the Agricultural Department of the government has asked that an agency be designated with power to fix and maintain minimum prices or establish maximum prices, as might be deemed necessary in any case of emergency. Thus the farmer is practically doubly assured of a compensatory price for all the products which he may grow this year, hence the desirability of increasing production to the economically optimum point.

While "Mothers' Day" is a comparatively new institution so far as its designation and public observance is concerned, the sentiment of the occasion is as old and familiar as the family relationship itself, but "lest we forget" in the rush of the strenuous modern life to render homage where homage is due, Mothers' Day has been made a national institution by Act of Congress and the proclamation of the executives of the nation and the various states. We cannot better typify the sentiment of the day, nor better suggest the manner in which it should be observed than by the reproduction of the Governor's proclamation which follows:

Our American civilization is built around the home. The heart of the home is the mother. What is there in all the realm of art that stands higher, more commanding, more beautiful, than a simple, refined, gracious woman in her household; a woman whose daily life is an out-pouring of the Gospel of service, who is worshipped by her children, beloved by her husband and who rules in her home by sweetness, by gentleness, by self-denial, by love? The mothers of the land are engaged in the noblest of all callings, the rearing of their sons and daughters to take their places as useful members of society.

As we, whose mothers have left us, look back through the years, how sweet and precious is the memory of the mother in the old home. All her life was a beautiful life. It ran like a rill down the hill-side and sang all the time. It was like flowers that know no summer and no winter. The memory of it kindles in us still the supremest affection and arouses the finest enthusiasm of our hearts.

Therefore, that we may pay a special tribute of affection to the mothers who still live and honor the memory of the mothers who have gone from us, I, Albert E. Sleeper, Governor of the State of Michigan, do hereby designate and set aside Sunday, May 13, as Mothers' Day, and I call upon our people, both young and old, to gather in their several places of worship, and take part in services appropriate to the day and, by the wearing of a red flower for the living mother and a white for the dear departed, to symbolize their love and reverence for the mothers of the nation.

In accordance with a resolution of the Congress of the United States, I further request the people of Michigan, on the day aforesaid to display the United States flag in their homes and in other suitable places, as a fitting expression of their desire to pay homage to American motherhood.

At the opening of the strenuous summer campaign when they are being urged to add to the available food supply to the greatest possible extent, we desire to call attention of our readers to the personal service which is theirs for the asking through the medium of the Michigan Farmer.

A weekly farm journal is able to give its readers valuable service which would be impossible for the monthly or the semi-monthly publication to render. Individual problems are given prompt attention and answered through our columns by competent authorities whenever the questions are of sufficient general interest to make such publication profitable. In other cases private answers are given by a competent authority. Our readers are very welcome to this gratuitous service, the only stipulation being that in every case their name be signed to the communication and their address given in same. Neither name nor address will be published where we are requested to withhold same, but anonymous inquiries will not be answered.

A look through any issue of the Michigan Farmer will illustrate to the reader the nature of the personal service which is rendered through the paper itself, and an initial experiment will reveal the extent of the personal service which we are ready to render every reader who appeals to us for expert aid in the solution of his problems.

HAPPENINGS OF THE WEEK.

Foreign.

The European War.—The western front continues to be the theater of greatest activity in the world war. Last week the French armies made gains at Craonne on the river Aisne and the English to the east of Arras and about Vimy Ridge. They have also been able to consolidate their gains at these two strategic points on the famous Hindenburg line. Early this week fierce German rushes were made to gain back lost ground, but according to London and Paris reports, the attempts were fruitless. Over a large portion of the western front violent artillery fighting is constantly in progress.—On the Italian front fighting is being resumed with both sides claiming advantages gained, but no large movement of troops is evident from the news at hand.—All appears to be quiet along the Russian frontier except that following the refusal of the new Russian government to accept the Teutonic program and consider independent peace terms, the German military organization is massing troops in the district of Libau apparently to make a drive upon Petrograd.

The new Russian government has outlived its first test in a controversy which developed between the council of workmen and soldiers delegates on one hand, and the provisional government on the other. When the government's policy was clearly set before the people in general, however, the opposition broke down and finally developed into patriotic support for the provisional officials. This means that the present policy of the new Russian government is to co-operate to the fullest extent with the allied powers and not to make a separate peace with the central nations. This reservation is made, however, that the war is to be prosecuted without the idea of annexations, expropriations or contributions.

The refusal of the Austrian government to inaugurate an effective reform in the franchise privileges of Hungary has stirred the working classes, and already a strike of serious proportions is on according to information coming through Copenhagen. All Budapest factories are closed.

Sweden is suffering from lack of food supplies. In her cities the people are becoming greatly concerned over the outcome. Riots have occurred and it has been necessary to use violence in some cases to restore a semblance of order. The supply of potatoes is completely exhausted, while bread and meat can only be secured by presenting cards.

Brazil is now preparing to co-operate with this country in the prosecution of the war against Germany. Her part will consist largely in the furnishing of commodities rather than in giving any considerable direct military aid.

Cuban negro rebels are burning and pillaging the homes of foreigners in Oriente province, according to information just received in this country. The object held out by the negroes is to drive out the white people to avenge the killing of 5,000 negroes during the revolution of 1912.

The Reichstag of Germany has made vital amendments to the constitution in which the war ministers of each state contingent are made responsible to the Reichstag and not to the Kaiser. The latter, however, maintains control of the navy.

National.

A federal council representing thirty different church denominations in this country are in conference at Washington this week to devise means by which the churches of America may be of the greatest service to the nation during its war with Germany.

Much space has been given to an announcement of an invention designed to overcome the U-boat menace. The claims being that the new device will remove the disability to which the entente allies have been placed by reason of the under-sea war. The announcement has since been denied in part, although members of the naval board have acknowledged that promising experimentation has been carried out, and they believe that the solution to the U-boat difficulty is in sight.

POTATO POINTERS FOR GENERAL FARMERS.

(Continued from first page).
and the characteristics of productiveness can be bred into a variety by selection and furnishing favorable conditions.

As a rule there is a tendency to put too much seed in a hill. Three and four stalks in each hill is sufficient, and better tubers are secured from hills where there are a small number of stalks than from the hills in which there are six or eight stalks. When fair sized potatoes are cut the number of stalks can be controlled. If the hills are planted close together, two or three stalks to the hill are sufficient. When seed is plentiful it is worth the while to plant only the strong eyes and cast aside the weak ones.

Only those who have made the matter a study realize the wide difference obtained by the use of only strong eyes which produce only strong stalks. When planted in check rows three feet apart each way, there are 4,840 hills to the acre. If there are a good many weak stalks, and it takes twenty-four hills to produce a bushel, the yield will be about 200 bushels per acre. If eighteen hills are required to produce a bushel there will be around 300 bushels to the acre. If it requires but twelve or thirteen hills to produce a bushel, which is not an impossibility, the yield will be around 40 bushels per acre.

Culture.

The manner of culture will depend largely on the character of the soil and climatic conditions. Heavy soils can be put in better condition and better results obtained if plowed in the fall than if left until late in the spring. If left until spring they should be plowed early while the moisture brought by spring rains is still near the surface. If worked down and harrowed frequently until planting time they will be in a condition to hold the moisture and the plant food contained in the soil will be in readiness for the crop.

After the potatoes are planted the spike-tooth harrow should be used frequently to kill the young weeds that start and maintain a dust mulch on the surface which will hold the moisture. This part of the culture is very important. If the weeds are allowed to get a start while the potatoes are coming up, a good deal of after culture will be required to subdue them, and a good deal of moisture will be wasted, both on the weeds and by evaporation.

While the potatoes are small the cultivator can be run at a good depth, say four inches deep to loosen up the ground and kill all weeds that have started. After the first time it is better to cultivate shallow and often to maintain a dust mulch and hold the moisture. The cultivation can be profitably continued until the vines cover the ground.

No hard and fast rules can be made and followed during all seasons. Much must depend on the climatic conditions. If rains come occasionally, and there is warmth and sunshine between rains to enable the cultivating to be done, then it can be attended to. If there are all sunny days and no rain, as was the case from June to October in 1916, then there is a lack of moisture and a failure in the crop. It was not the lack of suitable soil, fertility or preparation for the crop that was lacking in 1916, but it was lack of rain over which the farmers have no control. They can cultivate and conserve moisture for a short period of time, but ninety days of drouth brings short crops, high prices and discouraging results.

Given fairly favorable conditions I believe that the American farmers can be trusted to select and prepare the soil, plant the seed in the proper manner, attend the crop with suitable culture that will bring an abundant sup-

ply to meet the needs of our rapidly increasing population at prices which can be easily met by the average individual who is working at the present prevailing rate of wages.

FARM NOTES.

Applying Fertilizer Broadcast or in the Hill for Corn.

We have a fifteen-acre field of clover sod manured this winter and spring. The soil is a good sandy loam. My two sons want to raise a bumper crop. Now would you advise to drill the fertilizer in with grain drill or corn planter? We intend to check it. Also, how much fertilizer should we use to the acre? The land is in good shape.

Washtenaw Co.

F. G.

For the corn crop the writer is convinced from his own experience that the best way to use fertilizer is to drill or broadcast same before preparing the seed bed for corn, thus getting it thoroughly mixed with the soil. Some years ago we applied fertilizer to our corn in the hill and sowed it broadcast for potatoes. In recent years this program has been just reversed. One of the reasons for favoring the broadcasting of fertilizer for corn is that a heavier application can be safely made and we believe a better corn crop can be grown by this method. It is not safe to apply more than 125 pounds per acre in the hill when corn is checked because of the danger of injuring the germinating quality of the seed, particularly if the weather happens to be dry for some days after the corn is planted. On the other hand, a good liberal application can be made broadcast.

Corn is a grain crop which gives a larger average yield than any other grain crop grown upon our farms, and the use of 400 to 500 pounds of acid phosphate per acre has proven profitable under the writer's conditions. The extensive root system of the corn plant permeates the entire surface soil during the growing period of the crop, and much of this plant food is available at the time when the grain is ripening when phosphorous is most needed to mature a good crop. On the other hand, a small amount of fertilizer applied in the hills when the corn is checked will give the crop a good start and permit an early and vigorous growth, but does not provide a residue of phosphorus at a time when it is needed to mature a heavy corn crop.

Seeding Clover in Buckwheat.

I have a piece of rather light land that was in corn last year, part of it had manure applied. If the balance of the field is manured then disked and harrowed thoroughly, would it be all right to sow clover on, providing it is well limed? How much hydrated lime is needed per acre? Would it be advisable to sow buckwheat and clover? When ought the seeding be done?

Mecosta Co.

C. O.

If this soil is given a good application of lime, there should be a reasonable degree of certainty in getting a seeding of clover in buckwheat. It would perhaps be better to disk this field at an early date and apply ground limestone at the rate of say two tons per acre instead of using hydrated lime, and the results would be more permanent. Hydrated lime can be used in comparatively small amounts, applications of not more than 500 pounds per acre giving fairly good results where the soil is not in a very acid condition. Sometimes, however, this does not anywhere near satisfy the lime requirements of the soil.

If buckwheat is used as a grain crop, it can be sown anywhere between June 15 and July 10, and the ordinary rate of seeding is about one-half bushel per acre, but a comparatively thin seeding should be used if clover is to be sown with it. Of course, if this land is not in condition to grow a grain crop, it might be better to seed it without a nurse crop, but in a year like the present when all food products are high in price, it would pay to give supplementary fertilization and grow buckwheat rather than to seed without a



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Saginaw

"Up to the farmers of this country ... in large measure rest the fate of the war and the fate of the nations. It is of imperative importance that everything possible be done and done immediately to make sure of large harvests."

These stirring words of President Wilson are of vital meaning to every tiller of the soil. They are based on the needs of the country, seen by our leader, who knows that the fate of liberty hangs in the balance. They are just as important as the call to man the battleships and fill the trenches.

Conditions are staring us in the face that we cannot get away from. April reports on the wheat crop are the lowest we have had in years—we are 52,000,000 bushels short.

In other words, there is an enormous demand for more food that must be met by the farmer. It is up to you to see that the terrors of starvation are kept from your countrymen and from our allies. This is the branch of Uncle Sam's service that you can enlist in and it is *your* patriotic duty as much as it is that of the soldier to face the machine gun's fire.

The Silo Saves

A silo will increase the yield of your land. The silo offers to you the opportunity of conserving the enormous resources of your fields, of getting the greatest returns from the corn that you plant. Every particle of this valuable plant is stored away and made palatable and fat producing feed for your live stock when you put it in a silo.

With a silo you can feed more head of stock per acre—you can do it with less labor and at the same time put fertility back into the soil. Consider also this side of the question. Feed prices will be high, in fact are much higher right now than a year or so ago. And Silage is acknowledged to be the cheapest roughage that can be fed. In fact at every turn the silo represents a substantial saving in the production of live stock and conserving the resources of your fields.

Order Your Silo Now

This is a slogan that every farmer should realize the importance of. The enormous demands of the

government are making it almost impossible to get materials. For instance, the thousand wooden vessels we are building require two and one-half million feet of lumber *each*. The resources of our railroads are taxed to the utmost and that is a further hindrance both in getting in materials and shipping them out.

In a short time silo prices must go up. Materials are increasing in price. Sometimes it looks as though we will not be able to meet the demand for silos because of the scarcity of materials. Conditions this year are unusual, different from any other period in our history.

The Silo a War Time Necessity

Furthermore the silo is being universally recognized as a war time necessity. Many orders are being placed every day.

These are conditions we are facing. We are making every possible effort to take care of silo orders—we are exhausting every resource to get materials and turn them into silos. We will serve you faithfully.

Silo Prices Will Be Higher

There is no question that present conditions will continue, and that means silo prices must advance—next year they will be much higher because even we, as big buyers of lumber and steel, are subject to market conditions. So *order your silo now*.

This Is Your Patriotic Duty

This is the one way that you can aid this great country of ours in a war that is taxing the resources of all nations that love freedom and liberty. At the same time you will be exceptionally well paid for your efforts. You will get prices for your live stock and dairy products that will give you an unusual margin of profit. There is no question about this.

A Saginaw Silo the Best Investment

You can have the choice of the Saginaw Steel-Built Silo or the Saginaw Leader Silo.

Each, we believe, represents the greatest possible silo value. Write or wire us today for latest prices and quotations for immediate delivery, or see Saginaw Agent in your locality. Join in this nationwide movement for more food. It is your patriotic duty.

Every farmer should have a copy of President Wilson's appeal to American farmers. Write us for a copy. Address Dept. 170

The McClure Co.

Saginaw, Mich.

Cairo, Ill.

nurse crop. A liberal application of acid phosphate would help to make a good grain crop and also to get a good stand of clover.

LILLIE FARMSTEAD NOTES.

The cold wet weather that we have been having since the middle of April has been a very good thing for wheat. The thin stand of wheat always stools out more, thickens, and establishes a good sound root system during such weather as this, therefore, wheat prospects in our vicinity have improved, but we can't have a first-class crop because all the fields are spotted. The ice covering that I wrote about several weeks ago did smother the wheat, every bit of it in some places, and so on my fields we have places from several square rods to only a few square feet in other places, where the wheat is entirely killed; the rest of it is doing well. A neighbor said that one field would go forty bushels to the acre if it wasn't for these spots that had been smothered, and I don't know but that it would. It is good land and the wheat that is left is doing well, but these killed-out spots are bound to cut down the yield immensely.

A Late Spring.

We were all looking forward to an early spring, but we are getting just the reverse. Our land dried off the first half of April so that it could be tilled, but it was so cold that it froze every night. Harrows and discs would not penetrate the ground in the morning. Where heavy land freezes every night it ought not to be worked, because it is sticky. Some neighbors harrowed their land afternoons after it had thawed out, but we didn't do this and the neighbors have the start of us in getting in spring crops. I wish now that I had done the same thing but we waited for warm weather when it wouldn't freeze nights. The morning we did begin to prepare the land for early peas, the ground was freezing so we could scarcely harrow it. We got eight acres of peas sown in a twelve-acre field and then it rained, a heavy rain, we couldn't get on the land for several days. It got just about dry enough to work again when another heavy rain came. The land dried off enough so that we finished this first field of peas on April 27, and started in a twenty-five acre field and got a few acres sown. Now Saturday night it rained hard again and no one knows when we can work the land, and all the while it remains cold. Grass don't grow, pastures are late. If it only would stop raining so that we could get the crops in then they would grow when warm weather does come.

Hay Prices.

As I predicted last fall, hay is bringing a much better price this spring than most people thought. We perhaps were a little careless in the feeding of our hay because we thought we had an abundance, but it is all gone and I have already purchased six tons and have got to purchase more, and the surprising thing is that we find few farmers that have any hay to sell, they used it all up the same as we did, and they are asking \$13 and \$14 per ton in the barn. When one wants hay he doesn't object to the price if he can only get it, but it certainly will only now be a few days before the weather must change and then we will have grass.

Late Sown Oats.

With forty-five acres of peas to put in under present conditions, it is going to make our oats late sown. It looks now, with favorable conditions, it will be the middle of May before we get them in. I never did raise a really good crop of oats sown so late. It is barely possible, however, that conditions will be such this year that late sown oats will come out all right. The only thing to do, as I see it, is to sow them just as soon as we can and take

our chance with Dame Nature. The present price of all cereals stimulates us to do our very best and if old Dame Nature would only lend her assistance, there wouldn't be any trouble about producing a "bumper" crop.

Road Conditions.

The last of March and the first of April, country roads dried out and got in pretty good condition. It was pretty good motoring, and then the wet weather came and has been so continuous with little little sunshine, that many of the roads are getting into horrible shape. Some of them are practically impassable. These conditions, however, will change abruptly just as soon as we have some sunshine and warm weather.

COLON C. LILLIE.

CROP AND FERTILIZER QUESTIONS.

Acid Phosphate for Beans.

Have been reading in the issue of March 31, "Essentials to Successful Bean Culture," by Mr. J. F. Cox, in which he recommends acid phosphate for beans, also to use lime on acid soil, previous to seeding with beans. My field is a clay loam, well underdrained, was into oats last summer, and top-dressed with barnyard manure last fall. There is some clover, and weeds and grass, together with the oat stubble to hold the manure. Do you think there is any need of using lime on this field, and where can I get the acid phosphate; our dealer here has none. He thinks I ought to use a fertilizer with potash in, to stiffen the stalks. He wants \$28 for 1-8-1, \$27 for 1-7-1, and \$32 for 1-8-2, which makes it rather expensive.

Eaton Co.

C. H. A.

I think Mr. Cox's recommendation to use acid phosphate on beans is correct. I don't believe that clay loam soil needs any potash for a good bean crop and since potash is so extremely high I would not advise one to purchase potash for beans on this heavy soil. Since this field was top-dressed with stable manure and there is still some clover and weeds and grass to be turned down and to furnish nitrogen, I don't believe that it would pay to purchase any commercial nitrogen. Beans are a leguminous plant and are supposed to get some of their nitrogen at least from the atmosphere. Acid phosphate is almost always satisfactory for beans. It develops pods and beans and hastens the ripening and causes the plants to ripen more uniformly and it produces good plump seed. Therefore, I think the advice to you to use acid phosphate on your bean crop is good.

Acid phosphate can be purchased of any reliable manufacturer in the United States. Perhaps the dealer hasn't got it on hand but he can send and get it. I would not purchase a complete fertilizer or one even containing nitrogen, under present conditions.

Planting Soy Beans.

I saw an article in the Michigan Farmer on soy beans. Can you tell me how many I should sow to the acre? Where can I get soy beans? They do not keep them here.

Lapeer Co.

M. T. S.

If you plant soy beans with the corn for ensilage, about eight quarts of seed is sufficient. In other words, about the same amount of beans as you plant of corn. If you plant soy beans by themselves in rows twenty-eight inches apart you will need about one bushel of seed per acre, possibly a little more. If you sow soy beans broadcast, you will need twice as much seed, perhaps two and a half bushels per acre.

Any reliable seedsman will get soy bean seed for you. If you intend to harvest these beans to save the seed, you would want to get an early variety, but if for ensilage, a late variety is better as you don't want them to be ripe when they are put into the silo. Your local elevator man or seed merchant can get soy beans for you. They are quoted by all the leading seedsman in the United States. They are constantly sending out quotations of all kinds of seed to the local seed merchant and he can order them for you.

COLON C. LILLIE.

Picking a Good Dairy Cow

By H. E. MERN

Ordinary dairy practice the scales and tester have become so common as a means of picking out the best cows for breeding and production, that the old plan of selecting by conformation has become of secondary importance. However, there are often times when one must buy cows, and in many cases it is impossible to secure any authenticated milk and butter-fat records of cows which are for sale. For this reason and for other somewhat less important ones it is very desirable that one be able to get a fairly correct notion of a cow's dairy capacity from her appearance.

A dairy cow's business from a dairyman's point of view, is primarily to produce a large amount of high-class milk, and secondarily to produce good dairy calves. So far as the first purpose is concerned, there are two regions of the cow's body that are of primary importance. The first of these is the udder, because it is here that the actual making of the milk takes place; and the second is the "barrel," because in the barrel are situated the vital and nutritive organs upon which depend a generous supply of food-laden blood to the udder.

Pay Attention to Udder.

In looking a dairy cow over, then, pay particular attention to the udder. See to it that it is large. A heavy milking cow with a small udder is so rare that she is interesting chiefly as the exception which proves the rule. Then look to the shape of the udder. It should be evenly carried down in front and behind and the teats should be uniformly of a fair size. Look also to the texture of the udder and to the indications as to its blood supply. The texture should be soft and spongy, not meaty. The secreting tissue is spongy in character, and a hard, meaty udder can not be expected to produce a heavy milk flow. The blood supply can be judged by the veins which leave the udder. They are known as the milk veins and go forward, one on each side on the outside of the abdominal wall to a hole in the wall, known as the milk well, through which they pass to the interior. A large blood supply to the udder is indicated by large, tortuous milk veins and large milk wells.

A Large Barrel Necessary.

Next look well to the barrel. The barrel is composed of the thorax, within which are situated the lungs and heart, and the abdomen, within which are situated the digestive system, organs of excretion, and reproductive system. It is essential that the barrel be large in order that there may be no crowding of these organs with the consequent interference with their work. Smallness in the barrel, either in the thorax or in the abdomen, should be considered strong evidence against the probability of the cow's making a sustained record as a heavy milker. The chest should be deep and the ribs well sprung in order to be sure of a large lung capacity. The abdomen should be broader than the chest and the hips set well apart, in order to provide room for eating and digesting large quantities of feed and in order to give room for the development and easy birth of the calf.

The Dairy Shape.

After having given careful attention to the udder and to the barrel one can then turn to certain general and special points which give additional information as to the cow's value. Most high-producing dairy cows show a triple wedge shape. When looked at from the side or from above they are seen to taper to the front. When looked at from the front or from behind they are seen to taper downward. The shape is very distinctly different from the almost rectangular shape characteristic of beef cattle. The triple

wedge shape is, therefore, well worth attention when picking out a dairy cow.

It is also well worth while to look for signs of femininity. The thick neck and heavy bone of the bull should be markedly absent; the face should be fine in feature, and the eye should be quiet and placid in expression. The muzzle should be broad and the nostrils large as indicating heavy feeding ability and large lung capacity.

A Good Cow a Good Eater.

There is one feature of the good dairy cow, however, which is at best only partially revealed in her external appearance. It often happens that of two cows with much the same conformation, one will eat much more feed than the other and make the extra amount into milk. There is something in her nervous make-up which makes her do it; this something is called dairy temperament, or simply temperament. It is the factor which we cannot see. The nearest that we can come to making it out is by noting the condition of the animal. We know that no cow can maintain a heavy milk flow well into the period of lactation and remain fat. It follows, therefore, that if a cow is well advanced in lactation and is well fleshed, her milk flow must be light. It does not follow, necessarily, however, that a lean cow is a good milker, for some cows are insufficiently fed, and others do not have the appetite to eat more than enough to sustain more than a moderate milk flow. We should not, therefore, consider leanness in a cow as proof of a high dairy temperament; but we should consider fleshiness in one advanced in lactation as a good proof of the lack of that temperament.

The Essentials of a Good Cow.

The chief points, then, in selecting a good dairy cow, are a large, symmetrical udder made up of secretory tissue and not of meaty material, and a large well-formed barrel capable of supplying an abundance of rich blood to the udder, capable of developing a good calf at frequent intervals, and capable of keeping the cow in a healthy and vigorous condition for a period of several years. Other points, while of value in deciding on the value of an animal, are second in importance to these.

DAIRY PROBLEMS.

Planting Soy Beans with Ensilage Corn.

What is your advice in regards to planting soy beans in ensilage corn? Does this make the silage a better feed, and would you plant them the same time as the corn? I thought perhaps if the beans were planted later it would make more moisture in the silage. Please let me know what time to plant for best results. Also my pasture runs short in latter part of July or August. I have two and one-half acres that I would like to use for this purpose. Would cowpeas and oats be a good feed if cut green, and what time is best to sow them?

Van Buren Co.

W. M.

Soy beans are a leguminous plant and therefore have the power of taking their nitrogen from the air for their own use and for the use of other plants. The plant itself is richer in nitrogen than plants that belong to other botanical families like corn, so the theory is that if we plant soy beans with corn that these soy beans will help furnish the corn plant with nitrogen; consequently we can grow better corn with less fertilizer and, second, the corn plant is a carbonaceous plant composed largely of starch and sugar and doesn't contain enough protein to make a balanced ration and when we grow soy beans with the corn these beans contain a larger per cent of protein than the corn and consequently make a silage that is more nearly a balanced ration.

The beans should be planted at the

PATRIOTISM DEMANDS That All Butter-Fat Waste Be Stopped

President Wilson's powerful appeal for the conservation of the nation's resources is still ringing in our ears. "The supreme need," he says, "of our own nation, and of the nations with which we are co-operating, is an abundance of supplies, and especially of food stuffs;" and again, "Upon the farmers of this country, therefore, in large measure rests the fate of the war and the fate of the nation."

Wasteful methods must be abolished. Every device that makes for the saving of time and labor on the farm must be utilized. Every plan that makes for the conservation of our food products must have the farmer's hearty co-operation.

And nowhere is there greater opportunity than in the production of dairy products, particularly butter-fat.

"Fats, fats, fats, more fats," that is the demand of the warring nations in Europe. The men who toil and the men in the trenches must have fats. They are the fuel that the human machine must have.

And no fat is so palatable or so easily assimilated as butter.

When it was simply a question of the farmer's own loss of profit, the tremendous waste of butter-fat on American farms was bad enough, but under present conditions such waste is nothing short of criminal.

And it is wholly unnecessary.

It is conservatively estimated that about a million cow owners in the United States are still skimming milk by some wasteful "gravity" method.

At an average of four cows to the farm, and an average waste of thirty-five to fifty pounds of butter-fat per cow, all of which could be saved by the use of a De Laval Cream Separator, this alone represents an annual waste of at least 140,000,000 pounds of butter-fat.

Then there are, perhaps, a million inferior or half-worn-out separators in use whose owners could save fifteen to twenty pounds of butter-fat per cow per year by replacing such machines with New De Laval's; and this represents another waste of at least 60,000,000 pounds of butter-fat annually.

Also there is the loss of time and labor that a De Laval would save and which could be better devoted to other productive work on the farm. This waste is hard to compute, but it is almost as important as the loss of butter-fat.

These are startling statements, but any dairy or creamery authority will agree that these estimates of waste are really very conservative.

Shall this tremendous waste continue? Will the loyal American farmer permit such waste when he appreciates the duty that is laid upon him to conserve the one article of food that above all others is necessary to the life and health and energy of the men who serve the nation in the field, the factory, the mine—and soon in the trenches?

We have always had an abiding faith in the American farmer and we believe that if he is made to appreciate the full purport of the President's appeal to him, the appeal will not be in vain, and when he further appreciates what the De Laval can do to save the butter-fat which is now being wasted, and that his patriotic duty demands that such waste be stopped—NOW—our plants will not be big enough to take care of one-half the demand for De Laval Cream Separators.

THE DE LAVAL SEPARATOR COMPANY

165 Broadway, New York

29 E. Madison St., Chicago

Government Tests prove Sharples claims:



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clean at
all
speeds

ALABAMA POLYTECHNIC INSTITUTE
AND
AGRICULTURAL EXPERIMENT STATION
Auburn, Ala.,
Jan. 5th, 1917.

M. I. Bloch,
Agent Sharples Separators,
Selma, Alabama.
On August 2nd, 1916, we made a series of tests with the
Sharples Suction-feed Separator at our creamery, with the
following results:

Revolutions per minute	Per cent cream	Per cent skim milk
35	28	.01
45	27	.01
55	26	.01
60	26	.02

So far as my knowledge goes in working with separators,
the Sharples Suction-feed is the only separator that will
give a uniform test with cream and skim-milk at varying
speeds of the handle, and that it is the only one that does
not lose more butterfat at low speed than at the proper
speed.

H. C. Ferguson
Instructor in Animal Husbandry

SHARPLES Famous Suction-feed Skims clean at any Speed SEPARATOR

—the only separator that will skim clean at widely-varying speeds
—the only separator that gives cream of unchanging thickness—all speeds
—the only separator that will skim your milk quicker when you turn faster
—the only separator with just one piece in the bowl—no discs, easiest to clean
—the only separator with knee-low supply tank and once-a-month oiling
Over a million users! Made by the oldest and greatest separator factory in
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Sharples Milkers—used on over 300,000 cows daily

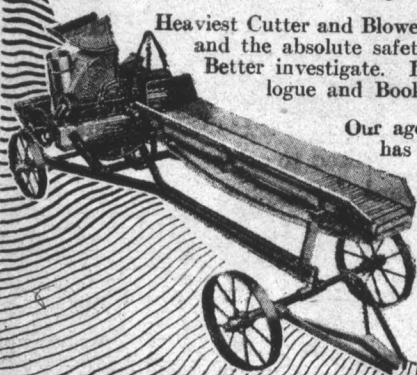
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BEFORE YOU BUY BE sure and get my prices! Before you
buy a manure spreader (gasoline engine,
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Galloway's 1917 catalog—the biggest, most important book and greatest
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have made the manufacturing and selling of these lines a life busi-
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Galloway lines until you first get our prices and our proposition.
Get my prices before you buy! Cash or Time.

UNDENIABLE PROOF!

I saved \$29 by ordering a Galloway.
I know it is a better spreader than I
could have bought here for \$125.
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I consider it equal to a prominent mach-
ine sold for \$140. One neighbor who has
used both says he would rather have the
Galloway. W. O. Oracraft, Eckley, Colo.

I saved \$59. Believe I got a better
spreader than was offered me here
for \$135.
A. T. Miller, Orella, Neb.

It is as good a spreader as money can buy.
I kept \$35.45 in my own pocket. A team that weighs
1,850 lbs. pulls it easily.
W. H. Adams, Pound, Wts.

THE WM. GALLOWAY CO., 189 Galloway St., Waterloo, Iowa

When Writing to advertisers please mention The Michigan Farmer.

same time you plant the corn. If you plant the corn first it gets the start of the beans and they don't do as well for silage. I don't think there is anything better than the Late Yellow variety of soy beans. These beans are a late variety but they mature sufficiently so that they can go in with the corn and make good silage. If you plant a very early variety they are liable to get ripe before you fill the silo then they won't make as good silage.

If you want something to supplement a late pasture, I know of nothing better than early planted corn. Plant it pretty thick in the row so as to get more fodder than ears. Good rich soil will produce an immense amount of fodder corn which will go a good ways toward helping out a poor pasture.

It wouldn't do to sow cowpeas and oats together because they don't ripen together. Cowpeas don't mature until along in the fall even too late for your purpose of soiling. If you use Canada field peas and oats they would mature early in July before you would need to supplement your pasture. Oats and peas need to be sown early in the spring else they don't do well.

The very best thing to supplement a poor pasture is a summer silo. Raise enough ensilage corn this year so that you will have enough left over next spring to feed during the dry weather of late July and August. That is the cheapest and best supplement that the farmer can provide. Another excellent feed is to sow peas and oats early in the spring and then when they are in a green condition, cut them and put them in a silo and feed them in August when your pasture is short. For summer feeding, it is better to have a silo of smaller diameter so that the surface can be fed more rapidly as the silage doesn't keep as well in warm weather as it does in cool weather, but ordinarily one silo, if it is tall enough, will answer the purpose. When your pasture is good in the spring and you don't need the silage cover your silage over with wheat chaff or something of that sort and then when the pasture dries up feed silage. It is not near as much bother as it is to cut soiling crops.

Sweet Cornstalk Silage.

Would you advise me to grow Stowell's Evergreen sweet corn for the can-
nery at \$10.50 per ton for the corn,
and then put the fodder in the silo?
There is money in the corn but I must
fill my silo from this field and if sweet
corn don't make a good silage I must
grow other corn. Some claim it is too
juicy and so sweet that there is too
much acid forms. Did you ever try it
and what is your experience? Years
ago a prominent dairy paper didn't ad-
vise sweet corn for silage but us farm-
ers have changed greatly on some
things in the last ten years and I am
not up-to-date on this question of sweet
corn silage.

Ottawa Co.

E. J. P.

The best answer I can give to this
question is that I raise only the sweet
corn for the canning factory and then
put the stalks into the silo. I have
done this for two or three years and
am fairly well satisfied. While the
sweet cornstalks do make the silage
a little more acid, the cows eat it and
it seems to give good results.

One thing, however, must be under-
stood—if you pick the ears off this
corn it will take a much larger acreage
to fill the silo from the stalks because
nearly one-half of the entire product
of the field would be in the ears so
that you will have to raise about twice
the acreage if you want to fill up the
silo with sweet cornstalks.

Cottage Cheese Too Dry.

We have fair success making cheese
by following the directions of the
Government Cheese Bulletin. Can you tell
us why it comes out hard instead of a
creamy softness?

Benzie Co.

P. A. R.

I take it for granted that the inquir-
er is referring to cottage cheese. Dry
cottage cheese usually comes from the

fact that the milk has been heated too
hot. This always produces a dry,
crumbly curd.

Seventy degrees, I think, is the prop-
er temperature to hold the milk until
it curdles. Then when the whey is
drained off the curd has a much softer
consistency than when it is held at a
higher temperature. But any cottage
cheese is very much improved if a lit-
tle cream is mixed with it. In fact, it
is hardly marketable unless some
cream is added, that is, people do not
like it, and the more cream you put in,
the better for the quality.

EVERY FARMER SHOULD RAISE A CALF.

"Raise a calf" has been adopted as a
slogan by the animal husbandry de-
partment of the Michigan Agricultural
College to boost beef production in
Michigan. The department declares
that if every farmer possessing fifty
acres of land or over raises and fattens
but one additional animal, the move
will in 1918 increase the state's dress-
ed meat supply by at least 62,000,000
pounds for shipment outside, or will
provide twenty-one pounds more per
year for every individual within the
state.

"Many farmers," the statement adds,
"have been slaughtering their calves,
but the raising of one animal would
place a burden on none. Dairy farm-
ers should keep their male calves. The
animals can be raised and fattened on
a fifty-acre farm without the cost of
feeding ever being felt.

"The step would go a long way to-
wards enabling the state to enlarge its
food supply."

CO-OPERATIVE BULL ASSOCIA- TIONS.

There are now more than thirty ac-
tive co-operative bull associations in
the United States. On July 1, 1916,
there were thirty-two representing a
total membership of 650 and owning
about 120 pure-bred bulls. In the opin-
ion of specialists in the United States
Department of Agriculture co-opera-
tion in this respect is only in its in-
fancy and co-operative bull associations
should become a great factor in the
improvement of our dairy cattle.

The co-operative bull association is
especially adapted to herds which are
so small that a valuable bull for each
herd would be too heavy an invest-
ment to be justified by the extent of
the business.

A typical organization is composed
of from fifteen to thirty farmers who
own jointly five bulls. The territory
of the association is divided into five
breeding blocks and one bull assigned
to each block. To prevent inbreeding,
each bull is moved to the next block
every two years. Barring losses from
death or other causes, therefore, no
new bulls need be purchased for ten
years. It is customary to apportion the
purchase price, and the expense of
supporting the bulls, among the mem-
bers according to the number of cows
owned by each.

These associations have been known
in the United States only since 1908,
when the first one was organized in
Michigan. Similar associations, how-
ever, have existed in Denmark ever
since 1874, and the movement in that
country has proved most successful.
So far as we know now, there seems
to be no serious objection to organiza-
tions of this character to offset their
very obvious advantages. Instead of
spreading abortion, tuberculosis, and
other diseases, as has been sometimes
alleged, they seem to aid in the con-
trol of contagion. One association, for
example, refused to permit one of its
members to use the bulls until he had
consented to dispose of all his cattle
which reacted to the tuberculin test.

Hidden Live Stock Profits

By J. H. McKENNEY

I HAVE always been an advocate of a system of farm accounting that would leave no doubt as to whether I was making an actual net profit on investment. It was evident that any manufacturer would pursue such a course, and his remaining in the business would depend on the result. Holding as I do that any farmer who keeps live stock is a manufacturer of milk and meat products, I was convinced that he should follow somewhat the same system as his brother who turns out grain-binders or sewing machines.

Accordingly, I decided on an analytical accounting of my stock-in-trade. Due allowance was made for the initial cost of calves, etc., of housing, labor, interest insurance, and a score of miscellaneous expenses. The complete list was quite a formidable one, and proved most illuminating. It showed me that a herd of first-class dairy cows had really to go some if they paid the bills and broke even. As for the steer and the hog, it showed me that from birth to block no combination of food stuffs could be fed to them without saying good-bye to a fair margin of profit that these same grains might have brought if sold directly for cash. What was the use of all this extra burden and responsibility? Why not, I thought, simplify matters by selling the crops for cash, and take it easy?

I used to get some satisfaction when addressing farmers' institute meetings in dragging out my "financial problem" by way of a caution to some "back to the land" enthusiast who thought he was going to get rich at the ancient and honorable occupation of farming. On one such occasion, a farmer in the audience offered this suggestion as a possible remedy: "Do you," he said, "credit your animals with everything that is due them? There may be a hidden profit." At the time I was not particularly impressed, but every now and then the idea came wandering back to me and persisted in getting some consideration. After turning the matter over in my mind, I finally reached the definite conclusion that there was not only one hidden profit, but several. We had been crediting the stock with only the direct profits while there were a number of indirect ones that certainly merited attention. For instance, there was the manure. Of course, it had not been forgotten altogether. We had lightly jotted it down at \$1.00 a ton, and let it go at that. But the chemist said that it contained fertilizing elements that had an average commercial value of, at least, \$3.00 a ton. Even then they took no account of the humus content and its beneficial effect on the physical condition of the soil. Its real virtue can better be realized when, after several years there is observed a decided increase in crop production. Such development means an added income which should be credited to the live stock on the farm.

A Solution for the Fertility Problem.

Then, live stock conserves fertility by affording a home market for those crops best adapted to soil improve-

ment. Grain growing as the sole revenue producer will impoverish the land as many farmers of the old school discovered to their cost. Live stock encourages the growing of clover—a fertilizer in itself; corn and roots which mean an economical cleaning of the land by inter-cultivation at regular periods; and cereals to furnish straw and to seed down with, while growing a crop. Thus it will be seen that stock farming demands a type of crop rotation that is best for the land, for the animals kept, and for the farmer himself in the labor-saving methods of marketing all the crops. Hence, another hidden profit should be checked up in favor of the stock.

Again, did you ever notice how each class of stock fits into its own peculiar niche in utilizing the various waste products about the farm? If the corn fails to ripen there is no market for it, but the hog will turn the soft ears into ten-dollar pork. Stacks of straw that the western grain farmer burns become an asset on a stock farm by being turned into feed and bedding, thus getting back into the soil to replace the plant food it had previously extracted. A flock of sheep will turn a weedy farm into a clean one, thereby enhancing its cash value. Poultry converts grass, scattered grains and insects into meat and eggs, while the hogs and calves make their greatest gains on skim-milk, buttermilk or whey—the by-products of the dairy.

The Factor of Stability.

The efficiency expert of modern business finds his chief usefulness in plugging the leaks. It is just there that the live stock farmer secures another of his hidden profits. Live stock fed on the farm for production of milk, butter, cheese, meat, eggs, etc., has stability as a business proposition that makes it most desirable. The growing of grain crops as a money-making occupation means a pretty constant gamble with the weather conditions and markets. Then, too, the mining of the soil must sooner or later lead to its depletion. It is simply a case of robbing Peter to pay Paul and is frequently the first step to the poorhouse. On the other hand, by having the crops swing around the live stock as a central pivot, it will be found that those which best feed the stock are also the soil builders. It is like putting the money in the bank and drawing interest on it for the proverbial rainy day. This existence of a proper balance giving stability to the business, is a hidden profit that must in all fairness be attributed to the live stock.

I believe that there are few who have experience in handling live stock but will admit that the work is broadening in its effect upon the farmer himself. The interest it creates demands study which in turn is educative. There are problems in plenty to be worked out, the solution of which stand for greater progress, a larger bank balance, and by no means least, a deeper love for one's vocation. Should not such a result be tabulated, also, as a hidden profit?

Pertinent Live Stock Hints

By W. C. FAIR, V. S.

NOW that the war is upon us, it behooves every farmer and stock-raiser to increase his output and make the most of what he has to do with. We are all aware that there is a great scarcity of food in many parts of the world; besides, it is not now, any too plentiful in this country. That being true it is little short of wicked to waste good grain in feeding it to worthless, unprofitable live stock. When you know that salable grain or roots is being fed to stock without a

possible chance of profit—why not get busy and sell the stock for the most you can get for it. You will agree with me when I say, that much feed is wasted when fed to wormy horse, hogs or sheep—kill the worms and save the feed. Old animals with poor and defective teeth, should have their grain ground and fodder cut for them. One-fourth part of the grain fed to some horses would be saved if the grinder teeth were floated, making it

(Continued on page 602).



HOW do you know the blossom's on the Clover? "Your Nose Knows"

It's the fragrance that appeals, the fresh, pure fragrance of early Spring. Fragrance is Nature's promise of delights to come. It's Nature's guarantee, too, of a thoroughly good tobacco. The tobacco with a wholly satisfying, pure fragrance is the tobacco for you. "Your Nose Knows."

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There is now an extra demand for farm laborers to replace the many young men who have volunteered for service in war. The government is urging farmers to put extra acreage into grain. Write for literature and particulars as to reduced railway rates to Sup. of Immigration, Ottawa, Canada, or

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Canadian Gov't Agt.

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Red River Special Line

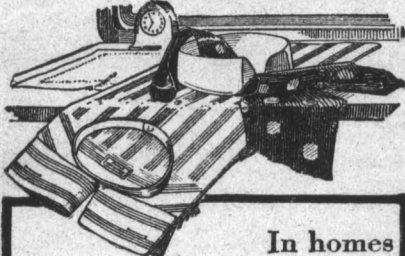
Either kind will buckle down and work—not snort around and swell the expense account. Use your automobile when you want to burn up power for fun, but buy an engine that has no nonsense about it when it goes to work.

The final test on a farm engine is to hook it to a grain separator. That will require steady and reliable power to do paying work. Send to the Nichols & Shepard branch house that is nearest to you for a little paper that shows your own neighbors' letters on the farm power question. Any one of them will give you a money-saving tip. The handsome general catalog of the Red River Special Line will come with the paper if you ask for it.

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When Writing to Advertisers Please Mention The Michigan Farmer.

New Developments In Spraying

MANY have thought that spraying has been developed to its highest efficiency and that hereafter there would be little change in it. However, this important orchard operation keeps in the line of progress and new developments which bring about more efficient and economical methods are frequently brought to our attention.

Dust spraying experiments have been carried on for some time and the results have been such that one could not be warranted in substituting it for the liquid spray. However, recent developments in the grinding of the dust materials, and other developments, have brought about results which make dust spraying a likely substitute for the liquid. In tests, it has proven quite efficient in the control of scab and as a control for codlin moth it is a close competitor of the liquid spray. The dust spray is a great saver of time and labor but it costs more for material. The total cost per tree, according to an Illinois test, is one-half to three-quarters greater than liquid. However, in this test the fruit was of better appearance and color, and the foliage was also of better color than that of the liquid-sprayed trees. The dust spray used was 80 to 85 per cent sulphur and 15 to 20 per cent dry arsenate of lead.

The Time to Spray for the Moth.

The spraying for codlin moth, according to the seasonal development of the insect, is growing in favor. It is the only method for the efficient and economical control of that insect. The use of bands around the trees as harboring places for the cocoons and then the placing of the cocoons in wire-covered traps under normal outdoor conditions, affords the easiest way to determine the codlin moth spraying time. Ten days after the moth emerges from the cocoon is the proper time for spraying. The seasonal appearances of the first brood of moths may vary a week, while that of the second brood may vary two or three weeks. The time to apply the burlap bands to the trees for the first brood is late in Aug-

ust of the previous year. For the second brood the bands ought to be applied early in June.

To many the advisability of omitting the cluster or pre-blossom spray and in its stead make a late application of the scale spray, is a question. Experiments carried on by the Illinois Experiment Station show that this spray can be safely omitted.

Spray According to Season.

The time is coming when we will adhere less rigidly to spray schedules than heretofore and instead spraying will be done according to the season. The banding method for determining the time for spraying the codlin moth will help along this line. Observations made by a well informed fruit grower, supplemented by advice from the experiment station, ought to be sufficient to determine the amount of spraying necessary and the best time for application.

Lime-sulphur and Bordeaux mixture both cause bruising of fruit and foliage but under different weather conditions. The Bordeaux causes insecting to a considerable extent during rainy times while lime-sulphur causes burning during the hot and dry periods, which the spray does not drip much but dries very rapidly. On the whole, lime-sulphur will cause less injury than Bordeaux.

A New Peach Spray.

While self-boiled lime-sulphur has proven a very efficient spray for the peach scab, it has been a troublesome mixture to make and apply because it could not be made fine enough to prevent frequent clogging of the nozzles. Also the mixture could never be made of uniform strength because of the variations in the amount of heat the lime would create, and frequently the sulphur and lime would unite chemically, as in the case of the regular lime-sulphur, and would thus cause injury to the peach foliage.

The New Jersey Experiment Station carried on a test with a substitute for self-boiled lime-sulphur which gave promising results. The formula used consisted of eight pounds of fine flowers of sulphur, four pounds of hydrated lime, one and a half ounces of ground glue dissolved in three gallons of water, and water enough to make fifty gallons. After breaking up lumps with sulphur and hydrated lime by putting them through a sieve, mix them thoroughly. Dissolve glue in warm water, after which add the glue liquid slowly while stirring continually and thoroughly until the lime and sulphur is well coated with the glue and a thin solution has been obtained which will go through a sieve. Do not dilute with water until the glue is thoroughly mixed in, otherwise the lime and sulphur will gather in lumps and cause clogging of the spray nozzles. If arsenate of lead is added, mix it into a thin paste before adding. The one necessary precaution is not to add any water to the lime and sulphur before the glue is added.

An Effective Spray.

In tests last summer this mixture proved effective when applied at the usual time, which is just as the shucks are slipping, two weeks later, and again following this last spray in three weeks. The sprayed trees were practically free from scab and brown rot, while on the unsprayed trees the diseases were quite prevalent.

This mixture is well worth giving a trial this season. It is more agreeable to mix and apply and its strength is more uniform than self-boiled lime-sulphur. Also, it does not give the fruit as much of the whitewashed appearance as the self-boiled formula and on that account may be applied as late as two weeks before ripening, while the self-boiled should never be applied in less than three weeks before ripening time.

Timely Talk on a Vital Subject



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Husband: "Not much. That's your insurance, not mine. And I'm going to take out another Postal Policy, too—while I can get it. You and the kiddie may be glad some day."

Wife: (thoughtfully): "I guess you're right at that, James."

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War, Peace and Food Prices

Would the Sudden Bringing of the War to a Close Cause a Slump in Prices of Agricultural Products?

MANY farmers have declared that they will not enlarge their plantings this season unless the government guarantees a minimum price. It is not the purpose of this article to consider the merits of this proposition, but inasmuch as such an assurance could not be given until it is too late for the farmers to plan on extending their plantings this spring, it seems wise at this moment to earnestly consider the economic conditions now existing and likely to exist, and the probable influence of same upon prices for the crops grown on Michigan farms in 1917.

World Food Supplies Nearly Exhausted.

The insistent demand for farm products will go on, whether war continues or a treaty of peace is signed. There can be very little doubt as to this. Economic conditions touching upon the matter of providing the race with food necessities all support such a contention.

In the first place, stocks of food are or will be depleted before the coming crop is ready for marketing. In normal years there is usually a goodly amount of the non-perishables that go over from one season to the other. Such will not be the case this year. The prevailing high prices have inspired men to go into every nook and corner of the country and the world, and gather in whatever is useful for human food. The bean situation illustrates this activity. Ordinarily stocks of beans are carried over from one marketing season to another, but this year it looks very much as if the present supply will be entirely consumed a month before the 1917 crop is harvested. Then, besides buyers have gone into every available bean-producing country and purchased their surplus so that there is no supply for the trade to fall back upon when the domestic holdings are exhausted. Manchuria, Korea, Japan and China are swept clean of last year's crop except what is required for seeding purposes.

Outlook for Wheat Not Promising.

The present urgent need of wheat by western European countries has forced England to buy from Argentina 200,000 tons of the grain and 20,000,000 pounds of flour out of supplies, which that country has reserved for home consumption. In return England has pledged herself to forward a similar amount of wheat from Canada and elsewhere this fall in case it is needed by the South American country.

Then further, the Southern Hemisphere's contribution to the wheat supply of the world is but little over half what it was for 1915-16. The total yield for the year was 226,269,121 bu., compared with 359,584,957 bu. for the previous year, and with a five-year average of 246,474,280 bushels. Add to this the outlook for the United States crop for 1917 which the federal government has estimated at 62.4 per cent of a normal crop as compared with a ten-year average of 86.2 and one can begin to comprehend the shortage in wheat which the world is facing at the present time.

Wars Waste Food.

Should war continue for any length of time (and the general consensus of opinion of those best informed on international politics indicates that such will be the case), then other unusual factors will obtain so long as the conflict lasts, to augment the food situation. War necessitates the holding of large supplies of foods in store ready for movement upon a moment's notice. The present submarine campaign is destroying thousands of tons of food that must be replaced. As battle fronts change it is often necessary for armies to destroy large depots of supplies to

prevent their falling into the hands of the enemy. These and other conditions will assist in creating a demand much larger than normal for the products of our farms.

And it is not probable that domestic consumption will be diminished to any appreciable degree. Our population is growing; our people will be busy with the regular duties of the nation except where factories change from the manufacturing of implements of peace to the making of war munitions, in which event they will be busier and paying higher wages than ever; there are no indications that general prosperity will in any way subside, but on the other hand there is every reason for the statement that the business of the country will grow by leaps and bounds—all of which promises a healthy domestic demand from our great cities and manufacturing centers for the products of the farm.

What will be Effect of Peace?

But what influence would the signing of peace have upon prices? Would not this bring about opposite results and spell financial ruin to thousands of our farmers? In the expenditure of large sums in high-priced seed and labor will not the American farmer be exposing himself to the possibility of heavy losses? Or would not heavy production bring the price of farm products to such a low level as to make it impossible for the farmer to cover expenses?

Peace will Increase Demand.

Neither the present outlook nor the lessons of history indicate that peace will cause a break in prices of farm products. As soon as peace is declared the central powers of Europe will be in the market for large stores of food stuffs of every description. Hunger strikes make it appear that the food situation in those countries is far worse than in other lands. Their larders are empty and will have to be filled and the filling will draw heavily upon the supplies of the world.

Then, too, peace will find the productive capacity of the belligerent nations greatly impaired. Millions of men will have been killed and other millions permanently incapacitated for work. Much attention will be given during the months following the war to the reconstruction of the various industrial lines that are suffering while the great conflict is on. This deflection of labor and capital will tend to keep down the supply and at the same time maintain or even increase the demand for farm products.

What History Teaches Us.

In this connection it might be interesting and profitable to glance back to the years immediately following our Civil War and see what conditions prevailed after the surrender of General Lee at Appomattox on April 9, 1865. After the harvests of that year had been gathered, Hon. J. R. Dodge, United States Statistician, concluded his report on the agriculture conditions of the country as follows:

A review of the agricultural progress of the year warrants the exhibition on the part of the farmer, of the utmost cheerfulness in the present and hopefulness for the future. Improvement has been rife, and skilled industry has secured its appropriate reward. Some of the crops were never, at any previous period, so large, and never were so high prices received, with one single exception.

The commissioner of agriculture, Hon. Isaac Newton, also reported on the great agricultural prosperity of the country after the Civil War in the following words, written November 27, 1865:

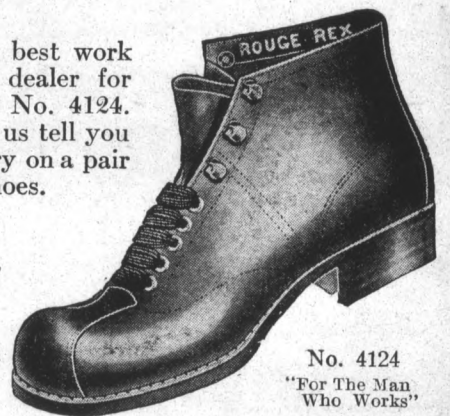
While more than a million of the hardy sons of toil have been called from their industrial pursuits to engage in warfare for the preservation

They Make Your Feet Feel Good

NO. 4124, the shoe here illustrated, is cut on that comfortable, easy-going bicycle pattern, with lots of room. The upper stock is that smoke-colored grey leather, tanned by our special process, making it close in fibre, tough, and wear resisting, and yet pliable and easy on the feet. The soles are of extra selected stock, also of our own tannage. They are picked out expressly for the hard wear shoes of this kind are expected to stand.

No. 4124 is one of the new shoes in the Rouge Rex line, made "for the man who works."

If you want one of the best work shoes made, ask your dealer for Rouge Rex shoe Stock No. 4124. Drop us a card and let us tell you where you can see and try on a pair of Rouge Rex Work Shoes.



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12-18 3 Plow Tractor over 2500 lbs. pulling power at the draw bar. The ideal tractor for the moderate size farm. Will turn in twelve ft. circle. A wonder at the price.

25-40 Leader Crawler, over 4,000 lbs. pulling power at the draw bar. Has the famous Leader Crawler wheel. Operates where no other tractor could go under similar conditions.

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When writing to advertisers please mention the Michigan Farmer.

of the Union, those at home have applied themselves with redoubled energy; and with the influence of higher wages in calling forth and economizing labor, and the aid of agricultural machinery and labor-saving implements and appliances, the farmer has been able to gather an abundant harvest. Thus those engaged in peaceful pursuits have been rewarded, even during the period of a most desolating war, with liberal wages for their labor and remunerative returns for products of the farm.

The earth, too, has seemed to respond to the increased demand upon its fertility, and has given us, with the aid of the husbandman, an abundance having no parallel in the history of that portion of the country, feeding the army and navy as well as the great mass of people in civil life, and leaving a surplus for exportation to foreign countries, and charitable donations for the alleviation of the suffering people of other nations.

While the products have commanded seemingly exorbitant prices, the industrial classes have had constant employment at remunerative wages; nor have these rewards of labor been depreciated or sensibly affected by the return of a vast army to the ranks of industry, or by the emancipation of four millions of slaves. So great are our resources calling urgently for development, that instead of fears for competition from returning soldiers, emancipated slaves or foreign immigrants (now flocking to our shores), there is seen a decided buoyancy in the labor market, with a demand for increased wages and fewer hours of toil.

Influence of Civil War on Grain Prices.

Some price comparisons will help the reader to a fuller appreciation of the influence of that war upon the price of farm crops for the years immediately following the struggle: Not until December 1 of 1916 has the farm value of wheat equalled the value of this cereal for December 1 of either 1865, 1866 and 1867. In other words, these three crop years after the close of the Civil War gave the farmers a higher average price for wheat than for any other single year during the last half century. The average price for corn for those three years was not equalled until the three years ending 1915. While the average price of oats for the same period was not excelled until the three-year period closing with the year 1916.

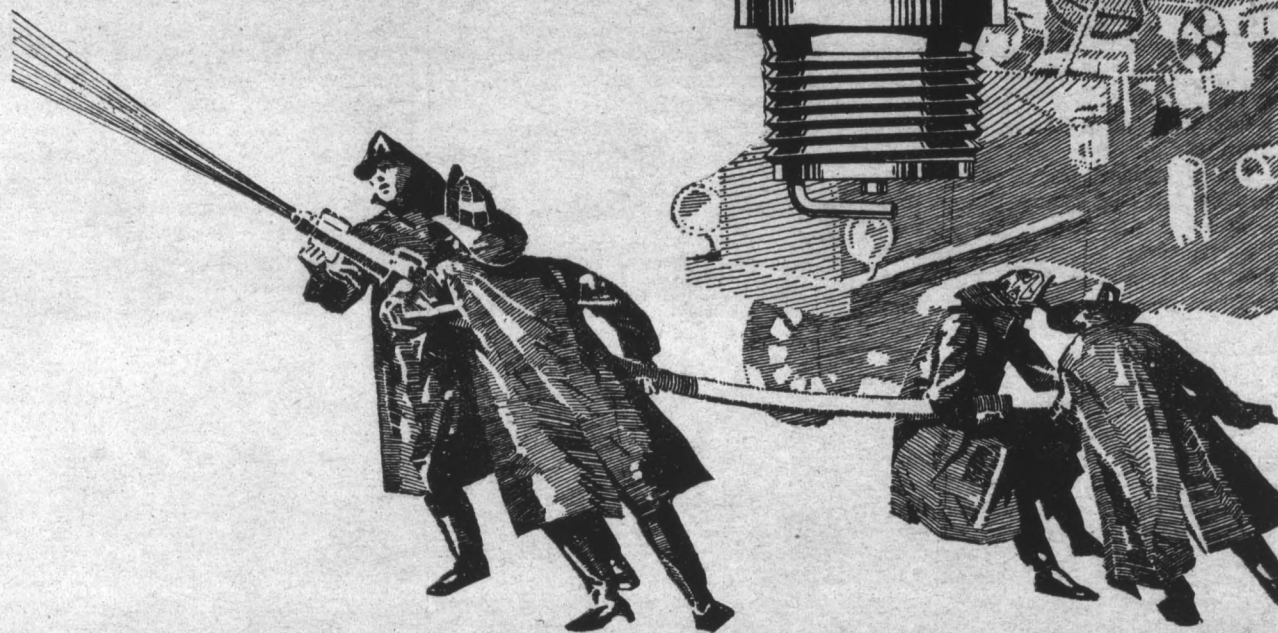
Our Civil War was only a national affair, the economic influence of which was largely limited to this continent except where the blockade cut off cotton and tobacco exportations. But the present struggle is in every essential world wide and the depletion of supplies of food stuffs is already very alarming while the period for reconstruction after the signing of peace will unquestionably be longer than the period after the American rebellion. Certainly there never has been a time when the agricultural outlook seems to offer greater inducements than now.

LIVE STOCK NEWS.

The Illinois State Dairy and Food Commissioner, W. S. Mathews, is organizing calf clubs and selling heifer calves of dairy stock to children, 2650 calves having been sold, while there are orders for 3000 more. The calves are to be auctioned off at the end of six months.

Range cattlemen who attended the recent meetings held in the northwest reported heavy losses last winter because of the unusually severe weather. Losses naturally varied a good deal, and it was noticed that where feed was furnished by the smaller cattlemen, losses were small. The greatest losses were reported in the northern portions of Montana and Wyoming. General losses ran from five to ten per cent, and there were instances where they ran as high as fifteen to twenty-five per cent. Marketing of range beeves will be considerably smaller than last year, and with grass fully a month later than usual and cattle extremely thin in flesh, shipments to the market will be greatly delayed. Bernard F. Heide, representing the Union Stock Yards and Transit Co., of Chicago, says range men feel that whatever losses were suffered will be made good by the high prices that will be paid next autumn. They fully realize that there is a serious shortage of beef all over the country, and they have no fear of either rangers or farmers suffering from price regulation by the federal government.

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CORN GROWERS ATTENTION!

One Dollar Buys Enough to Treat One Bushel of Shelled Corn



References Greenville State Bank Greenville Commercial Bank

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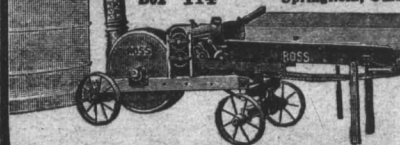
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JOURNAL
ESTABLISHED 1843.

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

TO Miss Anna Jarvis, of Philadelphia, the loss of her mother meant so much that she sent forth the idea of a special time for the formal observance whereby motherhood might be concertedly honored.

Miss Jarvis talked and wrote and thought and held to her idea. She interested ministers, lecturers, orators, and the prominent people of the nation. When the idea was still in swaddling garments, Reverend J. Wilbur Chapman, the renowned evangelist, approved it in these words:

"I consider the observance of 'Mother's Day' one of the most beautiful suggestions I have heard in years. I have adopted it in my own work, and

Why We Keep Mother's Day

By CAROL C. CRAIN

expect after this to have a 'Mother's Day' in the campaigns. My own mother has been in heaven for thirty-five years, but her memory is to me most precious and grows more beautiful with each passing year."

The movement took shape under the original idea of honoring departed mothers as we honor our fallen soldiers on Memorial Day. Then it was broadened and strengthened in public favor by making Mother's Day for all mothers, whether living or dead.

In the beginning the white carnation was selected as the most suitable emblem because Miss Jarvis held that its whiteness stands for purity, its form for beauty, its fragrance for love, its wide field of growth for charity. Although the white carnation is still the favored flower, any white bloom is suitable for wearing when Mother's Day arrives.

Early in May of 1914, Congress passed a resolution approving Mother's Day and designating the date for its

annual observance. The resolution, interesting because of the acknowledgment to the American mother, was as follows:

"Whereas the service rendered the United States by the American mother is the greatest source of the country's strength and inspiration; and

"Whereas we honor ourselves and the mothers of America when we do anything to give emphasis to the home as the fountain head of the state; and

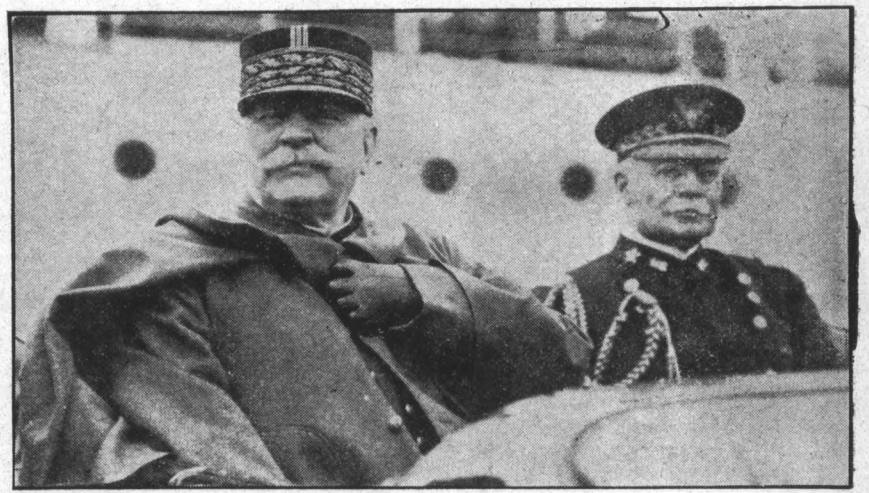
"Whereas the American mother is doing much for the home, for moral uplift, and religion, hence so much for good government and humanity; Therefore be it

"Resolved, That the President of the

WORLD EVENTS IN PICTURES



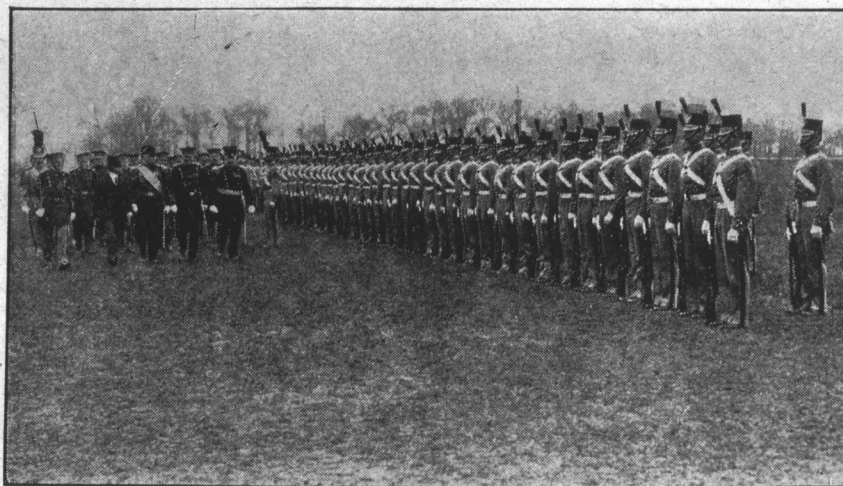
Large Crowds Greet British Commission Upon Arrival at Washington.



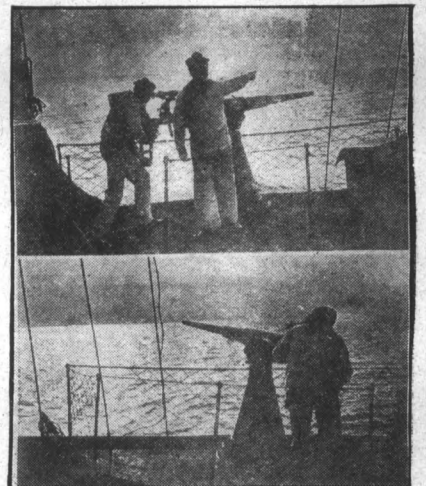
Marshal Joffre and General Scot, U. S. A., Consult on Military Matters.



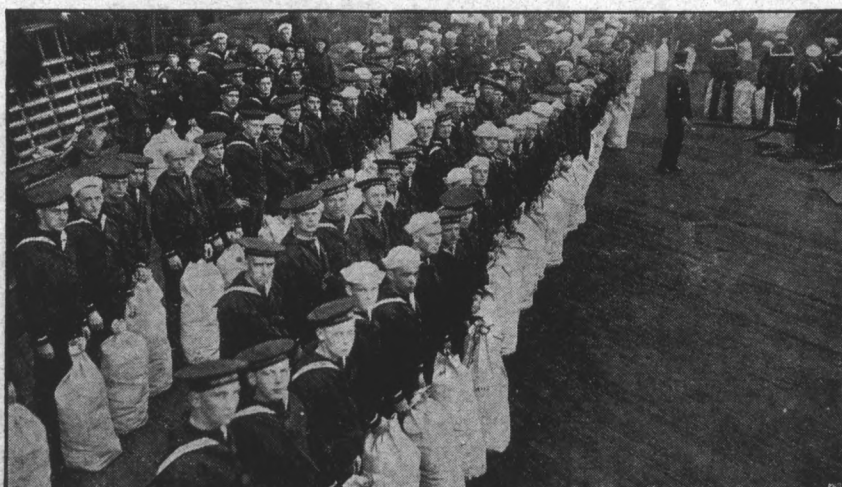
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Mother's Day

Youth fades; love droops,
the leaves of friendship fall; a
mother's secret hope outlives them all.

Oliver Wendell Holmes

United States is hereby authorized and requested to issue a proclamation calling upon the government officials to display the United States flag on all government buildings, and the people of the United States to display the flag at their homes or other suitable places on the second Sunday of May, as a public expression of our love and reverence for the mothers of our country.

"Section 2. That the second Sunday in May shall hereafter be designated and known as Mother's Day, and it shall be the duty of the President to request its observance as provided for in this resolution."

What great men owe their mothers: "My mother's influence in molding my character was conspicuous. She forced me to learn daily long chapters

of the Bible by heart. To that discipline and patient, accurate resolve I owe not only much of my general power of taking pains, but the best part of my taste for literature."—Ruskin.

"All that I have ever accomplished in life I owe to my mother."—Dwight L. Moody.

"I have carried the remembrance of her gentle voice and soothing touch all through life."—Eugene Field.

"All that I am my mother made me."—John Quincy Adams.

"Mother, you have brought me to this."—James A. Garfield's statement at his inauguration as President.

"All that I am or hope to be I owe to my mother."—Abraham Lincoln.

"A kiss from my mother made me a painter."—Benjamin West.

"Contraband" RANDALL PARRISH

I held the lantern behind my body, and stared out through the void at the faraway spark—it was no more than a pin prick, barely visible across miles of open water, and growing fainter each second. I read the whole meaning, despair clutching my heart. The vessel had waited and picked up the Esmeralda's boats; believing she then had on board all who lived, she had resumed her voyage. A mail boat, no doubt, running on schedule, every minute of delay meant loss to the owners, and the captain would never lie by until morning. Supposing he had rescued all lives, he cared nothing for the sinking hulk. We were alone, deserted, in the midst of the dead, possibly without even a chance to save ourselves from going down with the sodden wreck.

But if there should be a chance there remained not an instant to lose. I flashed the light about into the face of McCann and the girl, the man white and haggard, his eyes as dull as though he had taken an opiate, absolutely stupefied with fear. The fellow was no coward in a way; I knew that, for I had heard tales of his adventures; but this was a peril so sudden, so strange, as to fairly paralyze his faculties. He would do whatever I told him, but was utterly incapable of original effort. But the girl! In the gleam of the lantern her eyes met mine, full of questioning, but fearless. She must have seen, and understood also, for she called to me, clinging to the rail to keep her footing, her loosened hair flapping in the wind.

"They are leaving us, Mr. Hollis? Is not that the steamer out there?"

"Ay, the last glimpse we'll ever have of her," I answered bitterly, forgetting myself in anger. "The brutes think more of a few dollars than our lives. But we'll make a fight just the same. Come, wake up McCann! aft with you—oh, yes, you can; crawl along the rail; once beyond the cabin there's a good foothold. Now, my lady, I'll not let you fall—good! you are the better sailor of the two."

I held the lantern in my teeth, and clambered after them. It was a thirty foot climb, but the rail stanchions made a fair ladder, giving good hand and foothold, although occasionally the hulk beneath us rolled so heavily in

the sea as to bring us to a pause, clinging grimly to the tarred rope in order to retain our balance. Twice I thought the doomed yacht was actually going down, as under the blow of some swell she leaned heavily to starboard, giving glimpse of the black water just below where we clung so desperately. Yet with sodden, sickening motion, like the last painful effort of a dying creature, she managed to right herself once more, every timber groaning in agony, the salt spume of the sea blown into our faces. The wind was not high, nor the sea violent; had they been, I doubt if the yacht would have survived this long, the only motion being the comb of the long Atlantic rollers striking us on the port quarter, lifting us helplessly to their crest, and then dropping us into the hollow as though rocked in a cradle.

Once beyond the over-reach on the cabin we found opportunity to stand erect, gripping the iron supports which had sustained the awning above the after deck. In the dim rays of the lantern the scene was one of utter wreck and desolation. A boom of the mizzen mast had fallen from aloft ripping the awning into shreds, twisting the iron work, and splintering the rail aft. Tables and chairs, broken and entangled, lay piled in a heap against the after-hang of the cabin, while rope ends littered the deck, and hung dangling like so many serpents. There had been four boats hung in davits above the rails two of them were gone one hung trailing overboard, half submerged, with the bow still swinging to the tackle the fourth had been smashed into kindling. I staggered across to where I could look down at the dangling craft, holding my lantern out over the rail. It was broken amidships and useless, but jammed under a thwart, lay a man's body the gleam of light rested on the upturned face, and I recognized the features of Fosdick.

Sickened, covering my eyes with one arm, I clung to the shattered rail, completely unnerved. The struggle to control myself, to get a new grip, could not have lasted a moment. The voice of the girl aroused me, brought me back instantly to manhood.

"Mr. Hollis, the dory is still here!" I swept the lantern about, confused, and unable to locate the sound. Mc-

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Cann was crouching against the cabin, but the woman aided by the flag locker, had crept aft, and now leaned out over the stern rail and was pointing eagerly down into the black water. I worked my way cautiously forward to where she clung, the lantern swung overside, its small ring of light giving me view of the whole uptilted stern. The water within the yacht must have been steadily rising, for we were already so deeply submerged that only the upper half of the screw was visible, together with a small section of the rudder. The dory, which had evidently been left trailing astern, was actually afloat, although half filled, and her oars, jammed securely under a thwart, were still in place.

The position of the vessel, the water-logged condition of the smaller craft, told me at a glance the whole story. What was left of the crew of the Esmeralda, together with those guests who had lived to attain the deck, had made their escape in the two missing boats—they would hold twenty each, and were strong and seaworthy. No doubt the smashed one there had been lowered first, but the tackle jammed, and in the wreck Fosdick had been killed. The others had clambered aboard the two left, leaving him crushed behind. They had no need of the dory, which at that time was in all probability perched high and dry on the uptilted stern, where launching was impossible. Since then the yacht had been steadily sinking; had, perhaps, assumed a different position as it thus became more deeply submerged. The light dory, still held fast by its painter, had slid down the wet planks back into the sea, shipping some water as it came down stern on, but remaining buoyant enough to remain afloat. So far as I could perceive not a seam was opened, and every ounce of water had swept in over the gun-wales.

The sight of the little craft, staunch and buoyant, bobbing about just below us in the glow of light, brought back my courage. Ay, there was a chance here; we could get free of the doomed yacht; we were not to perish like drowning rats, helplessly. To be sure the boat was a small one, a mere dinghy intended for use in smooth waters; why they had continued trailing it astern so far at sea was a mystery; yet it would bear the three of us unless a storm arose. There was no time to seek either blankets, or provisions, nor was there any fresh water to be had—but at least, we need not go down with the ship. We had still a hope of rescue, a fighting chance—God be thanked for that!

My hand closed over hers as she clung to the rail, and she turned and looked at me. Never in any eyes have I seen such glimpse of steady courage.

"The boat is strong, staunch; she will carry us, Mr. Hollis?"

"Ay! this is better than I dared hope. But there is no time to lose; the yacht is settling fast—see those bubbles of air! why I can almost feel the droop of the planks beneath my feet. Here, McCann, bear a hand! Pull yourself up that flag locker; now get a grip here. Are you sailer enough to slide down that rope?"

He stared at the boat, bobbing up and down on the black water, with lack luster eyes.

"It—it will sink," he half sobbed, "it—it is almost full of water."

"Sink nothing!" my disgust rising beyond control. "It will hold twice your weight. Down with you, and bail. Then stand by to help the lady. Over you go my lad, if I have to pitch you headlong; this is no time to argue the matter. Will you try it, quietly?"

"What's the matter with your going?"

"Because I stay to help the girl, and cast off. We cannot afford to lose that line. Good God, man, our lives are at stake! I doubt if this vessel stays above water three minutes longer.

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Now, you either crawl over that rail, or I'll throw you."

He chose the least of the two evils, for my hands were at his throat. I helped him scramble to where he could grip the rope, to which he clung with all the terror of a big baby, but there was no stopping now. He stared up into my face, but his fear of me must have been greater than of the lapping water below, for the strands of the rope slipped through his fingers and an instant later he had clambered into the bow of the boat, and sank onto his knees in the water. To my relief the dory did not sink greatly beneath his weight, the water shipped proving scarcely ankle deep. It would support the three of us without bailing. The yacht rolled to starboard, fairly burying her rail. I thought she would never rise again, and my arms clasped the girl to hold her steady. Then the hulk rose slowly, painfully, like a giant struggling for one last breath. No words can describe the dead, sodden feeling of the sinking hulk under us.

CHAPTER VII.

Adrift in the Boat.

To cling there longer, to delay another moment, would be suicide.

I leaned far over and looked down at the dinghy now rising and falling on the swell caused by the plunge of the yacht. McCann was upon his knees clinging to the gunwales, his face turned upward pleadingly toward the light.

"Catch this lantern, McCann," I called down to him sharply. "I will swing it to you on the end of a rope. Easy, man! now throw off the lashing, and make the glim secure on the thwart behind you; better tie it to the lock. Good; you'll make a sailor yet. Now listen; work your boat over until you can get a grip on the rudder chains, and hold her steady—yes, to your right; use one of the oars. Now hang on—I'm going to send the lady down; stand by to give her a hand."

He did as I bade him in a fashion, but was so awkward about it, I wondered the boat kept upright. A little extra water was shipped, but finally the position sought was attained and the towline brought taut. Satisfied, I glanced aside at my companion.

"Not a very easy gangway, but the best we have. Are you afraid?" She smiled.

"Not in the least, Mr. Hollis; these skirts are a nuisance, but I can climb like a boy. Help me keep my balance on the rail."

She was over so quickly that I can scarcely recall more than clasping her arm, and she went down the rope hand over hand, as lightly as a sailor. By the time she reached the boat, her body was half submerged in the water, but McCann gave her his hand, and assisted in dragging her in over the side. No sooner was she safe within than she looked back, shading her eyes from the light to perceive me leaning anxiously over the rail above.

"I am all right, Mr. Hollis," she called in her clear steady voice. "Now you come—come quick."

"Just a second more," I answered. "Here is the line; haul it in. Get out your oars, McCann, and pull. Don't wait, or you'll be sucked down when the yacht sinks. Never mind me; I'll jump from the rail, and swim out to you."

I climbed onto the rail, gripping an iron stanchion for support, and poised myself for the plunge. The boat, surrounded by its little circle of light, drifted away, McCann awkwardly struggling with the heavy oars. The lantern rays fell full on the girl's upturned face, and once she held out her hands in pleading gesture. It could scarcely have been a minute I hesitated, yet suddenly beneath me came a sound of rending wood, a muffled explosion, and the deck reeled as though burst asunder. I leaped straight out-

ward, and went splashing down into the sea.

I must have sunk deeply, for I felt no swirl of the waters, no suction, but when I came again to the surface, nothing was visible but that bobbing lantern on the dinghy. The Esmeralda had disappeared. A faint cry reached me, and I answered it, striking out strongly toward the guiding light. Five minutes later, dripping and a bit exhausted—for I had been ashore a long while—I managed to clamber in over the stern. Even as I rested breathless on a thwart, I realized that the girl had crept aft, and her hands sought mine.

"Oh, I am so glad," she sobbed, almost hysterically. "I was afraid; I—I thought you went down with the yacht."

"No such luck. I jumped just as her decks blew up. Is there anything in sight?"

"I—I haven't looked; but there is no sound, no light anywhere. Do you suppose the steamer has really left us?"

"I have no doubt of it," I answered, but stood up so as to see about more clearly. "They supposed all who lived had been picked up, and then continued on their course."

My eyes ranged the horizon, but found nothing. To the eastward, as I supposed the direction to be, there hung a dark, vapor-like cloud obscuring the stars, and beneath this curtain the strange steamer had vanished, not even a distant gleam of light showing. We were alone on the great ocean in the grasp of the black night. I sat down again dazed for the instant by the immensity of the waters, the utter loneliness, and the sudden realization of the littleness of this cockle-shell in which we floated. Her voice aroused me to a comprehension that I alone was a sailor, and that on me depended every chance for life.

"Do you know, Mr. Hollis, where we are?"

"Not exactly. I heard the captain state the position of the yacht yesterday at noon, about one hundred and fifty miles east and south of Montauk; we have drifted some since."

"In what direction?"

"North, I should say, from what I know of currents hereabout."

She drew a quick breath.

"Are we in the steamer lanes?"

"Not of the North Atlantic steamers; they would pass, farther eastward. I cannot imagine what that fellow who rammed us was doing up in here so far out of his course. Yes, that was a liner; I could see the lights of her ports. The only vessels passing along here will be coasters, or, by luck, possibly some tramp bound Boston way."

Unsatisfactory as all this was, bringing to me afresh the desperate peril of our situation, it yet compelled me to exert authority, and seek to divert the minds of the others by action. We must make a fight—the best fight possible—and in this it was my province to lead.

"McCann," I said, "there is little use tugging away at those oars, when we even do not know the points of the compass. Hand one back here, so I can keep the boat's head straight, and then ship the other. Now let's see what is on board; try the locker forward; and Miss Vera, you might examine beneath the stern sheet. This boat has never been inboard since we left port."

They went at the task as though glad of the opportunity, McCann creeping forward on hands and knees.

"There's nothing here," he reported discouragingly, "but a roll of tarpaulin, some rope ends, and the splintered handle of a paddle."

"Well, what more do we want? That means a sail, if we can make a hole in one of the thwarts to step a mast. How much cloth is there?"

"Two or three yards."

"Pass it back here; good, solid stuff that. Now, Miss Vera, what are your discoveries?"

She looked up quickly, her eyes sparkling in the dim gleam of the lantern.

"A bag of biscuit, a small beaker of water, insipid, but sweet, some strong cord, and a bradawl."

"Lord!" I exclaimed, "this is almost too good to be true. Why, we are outfitting for a voyage. However, there is little use endeavoring to rig up a jury mast before daylight, when we know in which direction to steer. McCann, you haven't been overboard, and no doubt, your watch runs; what time is it?"

He fumbled about and found the timepiece, staring at it in amazement.

"Must have stopped, Hollis," he said. "No, by jove, the thing is running all right; the hands point to 1:30."

"That's about the hour. The collision occurred before eight bells, or else Seeley would have been on the bridge, instead of aft by the cabin."

"He had just been called, he told me, and had reached the deck when that devil rammed us."

"On the starboard quarter?"

"Forward on the right side as you face the bows, just about at the bridge. I only had a word or two with him. He said the other vessel was a Black Star boat, and that not a man forward of our main hatch had a chance. She cut clear into us as far as the wheelhouse, and then deliberately backed off, and let us sink. Seeley cursed them for a pack of cowards."

"Yes, I heard that. Have you any idea who was saved?"

"I heard the captain's voice back there under the awning, ordering out the boats, and after I was caught under that wreckage Carrington came up from below and climbed along the rail. I called to him, but he paid no attention; there was considerable noise then, and he might not have heard me."

(To be continued)

A TRIBUTE TO MOTHERS.

BY M. B. R.

At last they've come into their own—
The mothers of the land—
And a nation's sons and daughters,
A loving, loyal band,
Are whispering her dear name today,
And pinning on the breast,
A pink flower for the living one,
A white for her at rest.

Well may the fair carnations bloom
And yield their sweetest breath
In memory of her who went
Even to the gates of death
That we might breathe the breath of life,
And see what it might hold
Of fireside joy, of public trust,
Of fame, or honest gold.

Mother! how sweet its accents fall,
And linger on the ear
As rev'rent o'er her flower we bend
And drop thereon a tear;
'Twas thus she bent above our heads
And dewed with tears our hair,
When kneeling by our childhood's beds
She breathed for us a prayer.

Mother! the first of all to stamp
Her impress on the mind,
And hers to say if gently bred
Or coarse and unrefined
Her boy shall be, and in the war
Eternal waged 'twixt right and wrong,
'Tis hers to hold God's standard up
And lead his legions strong.

Hers to plant the fair ideals
Of hearth and home in girlhood's heart,
And to the budding woman mind
Their dignity impart;
Hers to make for balanced thought
'Twixt social sphere and home's domain;
Hers to warn against the snares
Where vulgar fashions reign.

Reformers, churchmen, schoolmen all
This maxim trite confess:
More potent far the mother's sway
Than platform's, pulpit's, press';
Oh, bright the diadem that shines
Upon the mother's hair!
God pity her who scorns the crown
That Heaven would have her wear.

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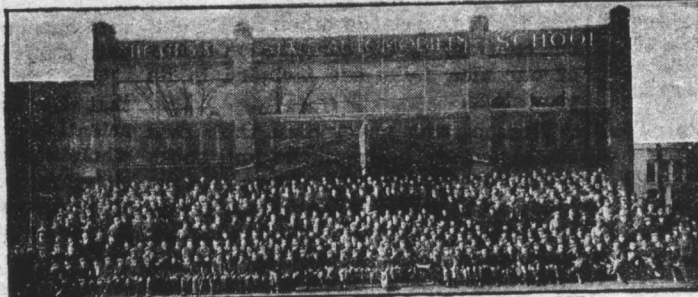
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Cole "8" " " "	Chalmers "6" " " "	Oldsmobile "8" " " "	King "8" " " "
Detroit Electric " " "	Paige "6" " " "	Winton "6" " " "	Willis-Knight " " "

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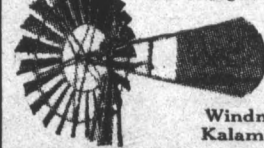
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Woman and Her Needs

At Home and Elsewhere

Doing Our Bit

THERE is a great deal of talk about the war these days. Also some action in some places. But for the most part, so far, it is largely talk about what we are going to do and what the other fellow ought to do. In the cities, women are bustling about establishing Red Cross units and taking first aid lessons, which they will never use, but which gives them a fine chance to get their names in the papers. Newspapers are printing oceans of stuff about how to cut down the high cost of living, the inexperienced editors never dreaming that the small part of it which is practical, thrifty housewives have practiced from their youth up, and the other sort of women won't practice anyway. There is much talk of compulsory service, which is a fine thing to get the other fellow out, but contrary to the constitution if any of our men folks are included in its provisions.

Women, who never darn their own stockings, are beginning to knit socks which no soldier could wear if they ever got finished. Young girls, who couldn't pick a sliver out of small brother's finger without fainting away, are rushing down to enlist, and posing for their photos. Boy scouts are strutting about importantly. Flags are flying and President Wilson's picture is on sale in all ten-cent stores, where Kaiser Wilhelm's portrait is conspicuous by its absence. Everyone is talking about doing his or her "bit," and noses curl contemptuously at the term "slacker."

But through it all, how many are conscientiously trying to find out what their particular "bit" is? A certain per cent, I grant you. There always is a minority of workers. But the greater part of it is simply froth and excitement.

I have asked myself several times what my bit is, but so far I have not found it. There is no sense in going to the Red Cross to roll bandages. The pretty young society girls have already rolled more than would be needed if the war were to last three years more, and besides, the papers like their pictures best. I can't economize on food stuffs a mite more, thus to aid Uncle Sam. If I did the family would be forced to the bread line. I can't have a garden, the back yard is solid sand for four feet down, and the two-year-old from next door appropriates it for his private diggings. I can't give my sons, they are too young, and my husband is exempt. I can't go as a nurse, and while I might knit socks it would take so long to finish a pair that the war would be over before the first heel was turned.

The only thing I can do is to write, and to me it seems the height of presumption to preach thrift to farm women. The one class of American women who know the meaning of the word and practice it in all its moods and tenses are farm women, and for Uncle Sam, or any of his menials, to preach thrift to farmers' wives seems to me little short of an insult.

What is the use of urging farm women to make gardens and can their surplus. Don't they wear themselves out doing that, even in times of plenty? Why tell them to use milk and eggs because meat is high, when fresh meat is always a scarce article about the farm home, due to the distance from market? Why advise eggless

cakes, with eggs in May at thirty-eight cents retail? Why advise them to economize on butter, with the Michigan farmers paying their creameries forty-eight cents a pound now for it? Why advise the women to wear last year's suit this year, when a large part of them have done that for five years back, and a certain smaller per cent for ten or more? Why? But why go on with it? Haven't you read it and heard it, dear women, until you are heartsick of the idea of economy, and filled with a mad desire to go out and plunge into all manner of wild extravagances, even to \$12 white top shoes. I have, and some day, very soon, too, I'm going to show my feelings in the matter by treating the family to a three-inch porterhouse steak, flanked with mashed potatoes, and garnished with stuffed, hothouse tomatoes.

The trouble with the thrift talk is that it is always read only by the conscientious women, who know the whole thing by heart and are earnestly striving to do their best. The sort of women who really need it never read it. They are buried in the fashion pages. If a woman is inclined to be thrifty and conscientious, she doesn't need anyone to tell her how. She finds her own ways, fitted to her own needs. If she is not so inclined no amount of "canned" advice sent out by the government, nor real fresh matter written in an office by some girl who doesn't know a potato ricer from a soap shaver is going to make her see the error of her ways.

The only thing I see for the average working woman to help is to just keep on the even tenor of her way. Her "bit" seems to me to be the same old "bit" she has been doing for ages, just to serve at home cheerfully, conscientiously, hopefully. It's our war, but we can't fight. Our part is simply clean living, and doing our bit at home, away back out of the limelight.

DEBORAH.

PRESERVING EGGS BY WATERGLASS OR LIMEWATER.

March, April, May and June are the months when the hens of the country produce about fifty per cent of the lay of the whole year. These are the months, also, when the thrifty housewife has her own hens, or who can draw upon the surplus supply of a near-by neighbor, puts away in waterglass or limewater, eggs for next autumn and winter. To ensure success, care must be exercised in this operation. The following directions are from the U. S. Department of Agriculture.

In the first place, the eggs must be fresh, preferably not more than two or three days old. This is the reason why it is much more satisfactory to put away eggs produced in one's own chicken yard.

Infertile eggs are best if they can be obtained, so, after the hatching, exclude roosters from the flock and kill them for table as needed.

The shells must be clean. Washing an egg with a soiled shell lessens its keeping quality. The protective gelatinous covering over the shell is removed by water, and when this is gone the egg spoils more rapidly.

The shells must be free from even the tiniest crack. One cracked egg will spoil a large number of sound eggs when packed in waterglass.

Earthenware crocks are good containers. The crocks must be clean and sound. Scald them and let them cool completely before use. A crock holding six gallons will accommodate eighteen dozens of eggs and about twenty-two pints of solution. Too large crocks are not desirable, since they increase the liability of breaking some of the eggs, and spoiling the entire batch.

It must be remembered that the eggs on the bottom crack first and that those in the bottom of the crocks are the last to be removed for use. They may be put up in smaller crocks.

"Waterglass is known to the druggist as sodium silicate. It can be purchased by the quart from druggists or poultry supply men. It is a pale yellow, odorless, sirupy liquid. It is diluted with water, rain water, or other water. In any case, the water should be boiled and then allowed to cool. Half fill the vessel with this solution and place the eggs in it, being careful not to crack them. The eggs can be added a few at a time until the container is filled. Be sure to keep about two inches of waterglass above the eggs. Cover the crock and place it in the coolest place available from which the crock will not have to be moved. Inspect the crock from time to time and replace any water that has evaporated, with cool boiled water.

When the eggs are to be used, remove them as desired, rinse in clean, cold water and use immediately. Eggs preserved in waterglass can be used for soft boiling or poaching, up to November. Before boiling such eggs prick a tiny hole in the large end of the shell with a needle to keep them from cracking. They are satisfactory for frying until about December. From that time until the end of the usual storage period, that is until March, they can be used for omelettes, scrambled eggs, custards, cakes and general cookery. As the eggs age, the white becomes thinner and is harder to beat. The yolk membrane becomes more delicate and it is correspondingly difficult to separate the whites from the yolks. Sometimes the white of the egg is tinged pink after very long keeping in waterglass. This is due, probably, to a little iron which is in the sodium silicate, but which apparently does not injure the egg for food purposes.

Limewater is also satisfactory for preserving eggs and is slightly less expensive than waterglass. A solution is made by placing two or three pounds of unslaked lime in five gallons of water, which has been boiled and allowed to cool, and allowing the mixture to stand until the lime settles and the liquid is clear. The eggs should be placed in a clean earthenware jar or other suitable vessel and covered to a depth of two inches with the liquid. Remove the eggs as desired, rinse in clean, cold water and use immediately.

AN ICELESS REFRIGERATOR.

BY IRENE KENDRICK.

A convenience is not always an expense. An expensive kitchen is not always a convenient one. We have a convenience so great, at so small an expense, and tried out by several years use, that it seems to merit a little publicity.

The water supply for the farm was a good well just at the corner of the house. A windmill pumped the water into the house. From the tank in the kitchen, which was placed on an old-fashioned kitchen sink, the water was

pipied to the barns. All the water used at the barns must pass through the house tank.

A few years ago this tank began to leak. A gasoline engine had taken the place of the old windmill and the pipes had to be changed, so that a general overhauling was due. About the same time our old home-made refrigerator collapsed and the old eye-sore of an ice house threatened to do the same. Sawdust was hard to get, the only ice we get is from the river, and since the sugar factory empties its refuse into it, it is rather dirty stuff. It looked like a lot of expense ahead.

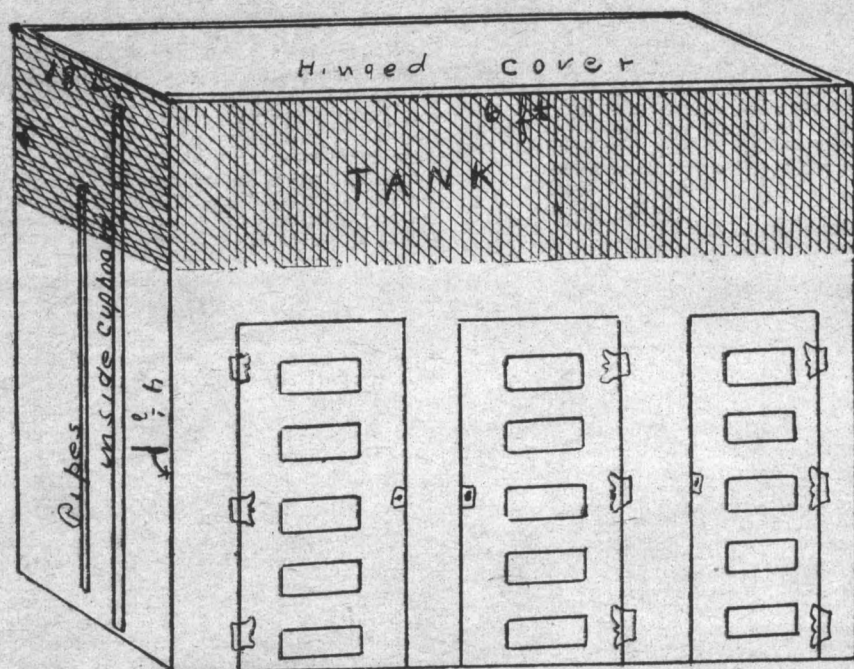
We noticed that the kettles stored in the cupboard under the sink were always very cold, and it gave us an idea. We began to study the problem and the outcome was, that when the work was done we had a very nice arrangement. The supply and outlet pipes were left in the same place when the

bread, baked apple. 6:00 p. m., cereal, milk, toast or bread. 10:00 p. m., milk (may be omitted).

At this time the baby should be taking about one quart of milk in twenty-four hours; part of this may be poured over the cereal.

Oatmeal should be cooked for three hours, with a little salt in the water. It should be served without sugar, or with a very little. The lighter cereals should be cooked at least an hour.

Bread for young children must have been thoroughly baked and should be quite dry when used, that is at least two days old. Tender toast is made by cutting thin slices from such a loaf and allowing them to dry still more, then toasting them to a delicate brown over a quick fire. Toast thus made is crisp all the way through and may be used in many ways. Many children will like to eat it broken into bits in broth or milk. Hot breads and biscuits,



The Iceless Refrigerator is Convenient for Keeping Food.

sink was torn out. A galvanized iron tank, 18 in. by 2 ft. by 6 ft. was placed about four and a half feet from the floor, and supported solidly by two by fours. The tank and the space beneath it were enclosed with half-inch stuff, and three cupboard doors fitted to the front. Two shelves were made in the enclosure, the whole cupboard painted white inside and the outside stained and varnished to match the kitchen woodwork.

Although it stands within three feet of the coal range, the air in the cupboard is so chilled by the cold water in the tank above it and the pipes passing through it, that the food placed in it is almost as cold as it would be in a real refrigerator.

FEEDING THE GROWING CHILD DURING THE SECOND YEAR.

Much of the illness and suffering among babies commonly attributed to the "second summer" or to teething is actually due to errors in feeding. The baby's delicate digestive mechanism, accustomed to dealing only with milk, can not all at once undertake the task of adjustment to a varied diet of solid foods, but must be strengthened by the gradual addition of new foods until the organs are trained to more complicated operations. The safe rule for feeding the baby is to add but one new food at a time to his dietary; to watch carefully the effect of each one and to withdraw it and return it to the simpler diet at the first sign of trouble. These rules are particularly important in summer, when a baby is more readily upset.

The following list shows the day's meals for a baby in second year.

7:00 a. m., milk, Zwieback, toast, or dried bread. 9:00 a. m., orange juice. 10:00 a. m., cereal, cup of milk. 2:00 p. m., broth, meat, vegetable, stale

griddle cakes and muffins are not suitable for young children.

The child may have a small portion of baked apple or prunes once a day in addition to his morning feeding of orange juice. The apple should be baked very tender, and all the skin, seeds, and hard parts should be removed. Prunes should be very carefully washed, soaked all night, then cooked until very tender, with very little sugar. A small portion of the strained pulp may be given instead of apple, and the juice may be used also.

The child may have about a tablespoonful of scraped meat, or a soft-boiled or coddled egg once a day. Beef, broiled, boiled, or roasted, the tender part of a lamb chop, or the delicate meat of chicken or fish may be used. All meat should be scraped or minced very fine, as no child of this age can be trusted to chew it properly.

A small portion of some properly cooked green vegetable, like spinach or tender string beans, may be given. Such vegetables should be fresh. They should be cooked, then drained and mashed or strained through a colander.—Children's Bureau.

SHORT CUTS TO HOUSEKEEPING.

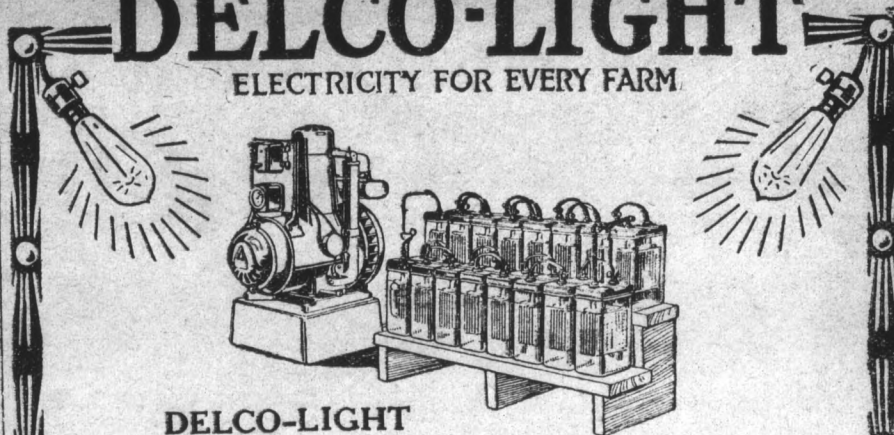
Keep your stove black and shining by applying linseed oil freely to it with a small paint brush. Polish with a soft cloth. The linseed oil acts as a polish and also prevents the stove from rusting.—M. A. P.

Onions and water will remove the smell of paint from a room. Slice several onions, put them in a pail of water and stand the pail in a closed apartment over night.—M. A. P.

Mrs. G. W.—The vegetables are chopped and cooked together, except the beets, and sealed exactly like fruit. Thank you very much for your appreciative words.

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"The Best Lighted Farm in the County"

One prominent farmer says:

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"The neighbors speak of it as the best lighted farm in the county—

"But it is more than that—it is the best place in which to live—and to raise a family."

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Markets.

GRAINS AND SEEDS.

May 8, 1917.

Wheat.—There is no general change in this trade except that prices have advanced to new high levels. Dealers are swamped with orders for flour, which has increased the demand for cash wheat and provided the chief factor for the higher prices. Conditions of the growing crop have improved but farmers have abandoned such a large percentage of the winter wheat acreage that experts calculate that the present outlook promises many million bushels less of the grain than were figured on by the government reporters in their April calculations. Spring wheat seeding is progressing under favorable conditions. The present visible supply is about 15,000,000 bushels short of the supply on hand a year ago. Last week when the bonded Canadian wheat was included in the total stocks it was expected that a substantial general increase in supplies would be reported, but on the contrary a million bushels decrease was the result of the marketing operations for the past week. One year ago No. 2 red wheat was quoted at \$1.21½ per bushel. Last week's Detroit quotations were:

	No. 2	No. 1	
	Red.	White.	July
Wednesday	2.94	2.91	2.27
Thursday	3.02	2.99	2.31
Friday	3.00	2.97	2.24
Saturday	3.04	3.01	2.28
Monday	3.08	3.05	2.29½
Tuesday	3.15	3.12	2.34

Chicago.—May wheat \$2.97 per bu; July \$2.32½; Sept. \$1.94½.

Corn.—The demand for this cereal is brisk and prices show a gain for the past week of several cents. Weather conditions have not been altogether favorable for starting the new crop. A year ago No. 3 corn was quoted at 76c. Last week's Detroit quotations were:

	No. 3	No. 3	
	Mixed.	Yellow.	
Wednesday	1.61	1.63	
Thursday	1.61	1.63	
Friday	1.63	1.65	
Saturday	1.63	1.65	
Monday	1.64	1.66	
Tuesday	1.64	1.66	

Chicago.—May corn \$1.56½ per bu; July \$1.45½; Sept. \$1.37½.

Oats.—There was a decrease of over 3,000,000 bushels in the visible supply of oats last week, indicating a more general demand for this grain which is comparatively cheaper than the other staples. Seeding will be large in a majority of the heavy producing states. A year ago standard oats were quoted at 48½c per bushel. Last week's Detroit quotations were:

	Standard.	No. 3	
		White.	
Wednesday	74	73½	
Thursday	74	73½	
Friday	73	72½	
Saturday	73	72½	
Monday	73	72½	
Tuesday	73	72½	

Chicago.—May oats 68½c per bu; July 63½c; Sept. 55c.

Rye.—Prices are unchanged from a week ago, with cash No. 2 quoted at \$2.02 per bushel.

Beans.—The nominal quotations on the local market were off 25c at the opening this week, cash and June shipments now being quoted at \$9.75 per bushel. In Chicago the trade is steady

with Michigan pea beans quoted at \$10.65 and red kidneys at \$8.75. Price basis at Greenville was \$9.75 Monday morning.

Seeds.—Prime red clover \$10.70; October \$11.40; alsike \$11.50.

DAIRY AND POULTRY PRODUCTS.

Butter.—The market continues firm at an advance of ½c. Creamery extras 37½c; do firsts 37c; dairy 33c; packing stock 26c.

Chicago.—Market continues steady and without change. Demand is mostly for consumptive purposes. Extra creameries 38c; extra firsts 37½c; packing stock 29c.

Elgin.—Prices recovered 1c from the low price of last week. The demand is for medium grades. Price, based on sales is 38c.

Eggs.—The demand is active and the market is firm at ¼c advance over last week. Fresh firsts 34c; current receipts 33½c.

Chicago.—Prices are higher but the feeling is easy at the advance. The demand is fair. Fresh firsts 32½@33½c; ordinary firsts 30½@31½c; miscellaneous lots, cases included 30@33c.

WOOL.

The market is nervous and prices continue to advance. The supply of fine wool is becoming very scarce and dealers are acting conservatively in their purchases because of the present lack of shipping accommodations. In Boston Michigan unwashed delaines are now quoted at 53c; do combing 48@56c; do clothing 44@46c.

LIVE STOCK MARKETS.

May 7, 1917.

Buffalo.

Receipts here today as follows: Cattle 110 cars; hogs 55 d. d.; sheep 35 d. d.; calves 2000 head.

With 110 cars of cattle here today there were very few heavy shipping cattle, the bulk of them running on the medium order and they sold mostly steady to 10c higher on the best heavy grades. There was a strong demand for the butcher cattle and they sold mostly 10@25c higher. Cow stuff was scarce and high. Strong demand for stockers. There was a strong demand for bulls and bulk of them sold 10@25c higher.

Receipts of hogs today were about like one week ago, 55 double decks on sale. There was very little change from Saturday, excepting on the light mixed grades, some of this class selling a little lower, while strong weight hogs sold strong and in some cases a little higher. The bulk of the sales were around \$16@16.10, with a few selected medium weights at \$16.25@16.35; pigs and lights from \$13.50@14.50, as to weight and quality; roughs \$14@14.25; stags \$12@13.

With a moderate run of lambs today our market opened up active and prices 15c higher than the close of last week. About all sold and we look for steady to shade higher prices last of the week, depending chiefly on the receipts. We quote: Lambs \$14.50@14.75; heavy lambs \$13@13.25; cull to common \$10@13.50; yearlings \$12@13; wethers \$11.50@12; ewes \$10.50@11.25; bucks \$8@10; best calves \$13.25@13.50; common and light \$9@12.50; heavy \$8.50@11; grassers \$6@6.50.

Chicago.

May 7, 1917.

Cattle. Hogs. Sheep.
Same day 1916..21,000 50,000 14,000
Same day 1916..19,101 41,025 15,623
Last week.....57,862 162,934 48,197
Same wk 1916..38,455 155,986 53,752

Cattle receipts today are large for a Monday these times, and while butcher stuff and desirable steers are selling satisfactorily on the whole, it looks like a lower market for poorly fattened steers as soon as trade gets well under way. Hogs average a dime lower, with sales at \$14.35@15.75 and one sale at \$15.80. Hogs marketed last week averaged 217 lbs. Choice lambs are held higher and are expected to sell better, but at a late hour buyers are holding back.

Cattle are marketed so irregularly that prices are declining or advancing most of the time, receipts weekly being alternately large and small. A marked gain in the receipts last week was brought about by the substantial advances of the preceding week, when receipts were very small in volume. The greater part of last week's offerings of beef steers went at \$10@12.40, with the better class of steers carrying plenty of weight, selling at \$12.25@13.40, while a class of steers grading as good sold at \$11.75 and upward. A medium grade of short-fed steers sold at \$11 and upward, while fair light-weight killers brought \$10 and upward, with limited sales of inferior little steers down to \$8@8.75. Yearlings of desirable quality were salable at \$11

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@12.85 at the week's best time, with a great scarcity of the better class, and sales were made all the way down to \$9 for a plain kind. Butcher stuff shared in the general decline in prices, with cows selling at \$7.80@11, while a sale was made of three head of fancy 1570-lb. cows at \$11.60. Heifers found buyers at \$7@11.50, while cutters brought \$7.20@7.75, canners \$6@7.15 and bulls \$7@10.25. All along canners and cutters have been selling relatively much better than much choicer cattle, and as long as the packers keep on filling enormous orders for army and navy canned meats this may be expected to continue a feature of the market. As for prime beef cattle, prices are very slow to weaken, and their comparative scarcity will doubtless cause them to sell at a liberal premium indefinitely. The stocker and feeder branch of the market is as animated as could be expected with the moderate offerings of desirable kinds and their great dearth. Stockers have sold mostly at \$7.75@9.75, only prime yearling stockers going near the highest figures, while feeders sold at \$9.20@10.50. Most beef cattle declined 15 @25c. Calves sold at \$6@13.25.

Hogs were in much increased supply last week, starting off with a Monday run of 50,549 head, and a little weakness in prices took place, but declines were small and were followed by recoveries. Especial firmness took place in choice hogs carrying lots of weight whenever the market developed strength, these being wanted in fair numbers for eastern shipment; but the eastward movement has continued far less in volume than earlier in the year, when large numbers went out from here. Hogs at the prices recently paid have been great money-makers for their fortunate owners, and they are expected to keep on doing so for a long time. Turning back to this time in 1911, it is seen that hogs were selling at \$5.60@6.30, while no longer ago than at this time in 1915 sales were made at \$7.05@7.75. At the week's best time prime hogs brought \$16, while at the close light bacon hogs brought \$14.40@15.40; heavy packers \$15.25@15.65; heavy shippers \$15.65@15.85; light shippers \$15.45@15.60; light "singeing" hogs, averaging 170 to 200 lbs., \$15.60@15.80; pigs \$10@12.90, lots weighing up to 135 lbs. going highest. The week's receipts of hogs showed large gains.

Lambs and other live muttons have for still another week followed their long continued upward course, with a number of new high records in prices, lambs still taking the lead. Most of the receipts consisted of Colorado woolled lambs and western clipped lambs, there being a marked scarcity of yearlings, wethers and ewes, while scarcely any shearing and feeding lambs showed up, the best bringing \$16 per 100 lbs. Prime lambs advanced 85c, while shorn lots moved up \$1@1.15, with similar advances in sheep and yearlings. Woolled lots closed as follows: Lambs \$14.25@17.75; feeder and shearing lambs \$14.50@16; yearlings \$13.75@15.75; wethers \$11.50@14.25; ewes \$9.50@14; bucks \$10.75@12.50; spring lambs \$14.25@17.75. Clipped lambs closed at \$13.25@14.65.

Horses were marketed so sparingly last week that prices were very firm for any desirable kinds. Army horses were nominal at \$120 for mounts and \$160@175 for gunners, while inferior animals of light weight brought \$60@85 and drafters \$185@285 or more. The farm chunks were quoted at \$60@125 and up to \$200 for superior animals.

The thirty-second annual meeting of the Holstein-Friesian Association of America, will be held at the Bancroft Hotel, Worcester, Mass., June 6, 1917. The program is unusually good and the entertainment to be furnished by the New England Holstein Breeders will be worth while.

The Michigan Highway Commissioner is asking the federal government to aid in the building of six miles of road in Allegan county, nine miles in Muskegon and Oceana counties, as parts of the West Michigan Pike, and ten miles in Iosco county, and ten miles in Presque Isle county as portions of the East Michigan pike. Aid will also be asked for the completion of the road connecting the copper country with Marquette county in the upper peninsula. These funds will be asked under the provisions of the Read bill passed by congress at its last session.

Herbert Hammond, of Wilmington, Michigan, has been advertising baby chicks in the Michigan Farmer; also in other publications. We received a letter from him, reading as follows: "Have received more inquiries from one insertion of our advertising in your paper than we have from three poultry journals, one of which we have used since November—the others, two and three months."

THIS IS THE LAST EDITION

The first edition is sent to those who have not expressed a desire for the latest markets. The late market edition will be sent on request at any time.

DETROIT LIVE STOCK MARKET.

Thursday's Market.
May 10, 1917.

Cattle.

Receipts 1387. The service handed out by all Detroit roads this week was very bad, stock that should have been sold Wednesday morning did not arrive until late in the afternoon and quite a bit through the night. It would seem as if a little better service might be given with very little extra effort. Much of the stock reaches the Detroit terminals in fairly good time, but takes too long to reach the yards.

In the cattle division the receipts were considerably less than last week and on this account the trade was active and all grades brought strong prices. Wm. Knapp, of Rochester, had the best steer (from Michigan) ever seen in the yards. It was raised by June Smith, an extensive breeder of Shorthorns near Oxford, and was sold by Bishop, Bullen & Holmes to Hammond, Standish & Co., for \$12.50 per cwt, and weighed 1880 lbs.

The close in the cattle division was strong as follows: Best heavy steers \$10.75@11; best handy weight butcher steers \$10@10.50; mixed steers and heifers \$9@10.25; handy light butchers \$8.50@9; light butchers \$7.50@8.25; best cows \$8.50@9; butcher cows \$7@8; common cows \$7@7.50; canners \$6@6.75; best heavy bulls \$8.75@9.25; bologna bulls \$8@8.75; feeders \$8.50@9.50; stockers \$7@8.50; milkers and springers \$5@10.

Bishop, B. & H. sold Thompson 9 butchers av 795 at \$8.50, 2 cows av 895 at \$6.75, 1 do wgh 1110 at \$8, 1 bull wgh 890 at \$7; to Mason B. Co. 4 steers av 1045 at \$10.50, 3 do av 817 at \$9, 1 bull wgh 1600 at \$9.50, 1 do wgh 1540 at \$9; to Prentiss 5 cows av 990 at \$8; to Brighton D. M. Co. 4 steers av 1275 at \$11, 2 cows av 950 at \$8, 5 do av 920 at \$8.25, 7 do av 743 at \$8.25; to Newton P. Co. 1 cow wgh 1050 at \$7; to Hammond, S. & Co. 20 steers av 881 at \$10.25, 4 do av 635 at \$8.50, 7 do av 1040 at \$10.50, 1 cow wgh 910 at \$7, 1 do wgh 1200 at \$7.50, 36 steers av 844 at \$10.15; to Parker, W. & Co. 10 cows av 1090 at \$7.50; to Prentiss 3 do av 1320 at \$10, 1 do wgh 900 at \$7, 1 heifer wgh 960 at \$8.75; to Sullivan P. Co. 2 steers av 1100 at \$10.25; to Thompson 6 butchers av 846 at \$10, 4 do av 955 at \$9, 10 steers av 1009 at \$10.50, 3 bulls av 970 at \$8.25; to Hammond, S. & Co. 12 steers av 1100 at \$10.75; to Mich. B. Co. 1 bull wgh 1160 at \$8.75, 5 cows av 1060 at \$7.85, 6 cows av 983 at \$7.50, 9 steers av 936 at \$9.60, 1 bull wgh 1150 at \$8.50; to Newton B. Co. 3 cows av 960 at \$6.75; to Shipiro 1 bull wgh 1300 at \$9; to Brighton D. M. Co. 1 do wgh 1200 at \$9, 19 steers av 1176 at \$10.85.

Veal Calves.

Receipts 1148. The veal calf trade was active from start to finish at last week's prices. Best grades \$12.50@13; common \$9@11.50.

Erwin, S. & J. sold Thompson 24 av 150 at \$12.90, 3 av 125 at \$10; to Rattkowski 1 wgh 150 at \$13.50; to Nagle P. Co. 5 av 140 at \$12.50, 2 av 150 at \$10, 7 av 145 at \$13, 12 av 160 at \$13, 11 av 145 at \$12.50, 3 av 120 at \$12.50; to Hammond, S. & Co. 13 av 135 at \$12.75; to Thompson 20 av 150 at \$13; to Nagle P. Co. 5 av 150 at \$13; to Hammond, S. & Co. 14 av 140 at \$13. McMullen, K. & J. sold Hammond, S. & Co. 7 av 200 at \$13; to Goose 20 av 145 at \$13.50.

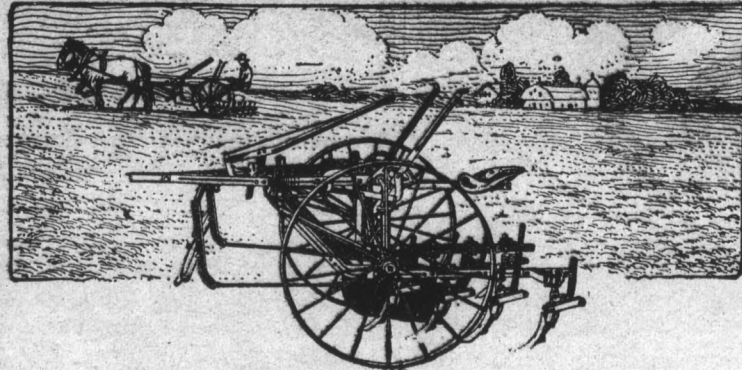
Sheep and Lambs.

Receipts 2158. The sheep and lamb trade was fully \$1 per cwt. higher than last week, but not very active. Prices are so high that Detroit retail butchers cannot sell them to get their money back and the bulk of the good ones here were sold to Swift & Co. for their New York houses. Prices averaged as follows: Best lambs \$14.50; fair lambs \$13@14; light to common lambs \$10@12; fair to good sheep \$9.25@10.25; culls and common \$7@8.

Sandel, S., B. & G. sold Thompson 131 lambs av 70 at \$13.25; to Parker, W. & Co. 3 wool lambs av 80 at \$16, 2 do av 75 at \$14, 5 sheep av 106 at \$10, 3 wool lambs av 95 at \$16, 64 do av 75 at \$14.15, 26 do av 70 at \$13.50. McMullen, K. & J. sold Parker, W. & Co. 245 lambs av 80 at \$14.50.

Hogs.

Receipts 5490. In the hog department the market opened up slow early in the week with tops selling at \$15.25. On Wednesday they advanced 10@15c and were active, mixed grades selling at \$15.25@15.65; pigs \$13@13.25. On Thursday the market was steady.



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30x3	7.70	8.60	2.20
32x3	9.25	9.95	2.40
30x3 1/2	9.95	11.30	2.60
31x3 1/2	10.55	11.60	2.75
32x3 1/2	11.50	12.95	2.90
34x3 1/2	12.15	13.35	3.05
31x4	14.75	16.60	3.50
32x4	15.05	16.85	3.60
38x4	15.75	17.20	3.65
34x4	16.10	17.65	3.75
36x4	17.00	18.60	3.85
38x4	17.20	18.65	3.95
34x4 1/2	21.65	23.65	4.55
35x4 1/2	22.70	24.70	4.65
36x4 1/2	23.05	25.15	4.75
37x4 1/2	23.95	26.10	4.95
38x4 1/2	24.90	27.25	5.40
38x5	27.10	29.60	6.65
37x5	26.40	28.85	6.80

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Baby Chicks, S. C. White Leghorns, 5,000 for May, at \$12.00 per 100. Safe delivery guaranteed. All breeders are farm raised and bred for high egg production. Order direct from this advertisement. **SUNNYBROOK FARM,** Hillsdale, Mich.

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CHICKS Rocks, Reds, Orpingtons, Wyandottes, Leghorns, Buff Orpingtons. Ship everywhere. Prices right. **TIFFIN POULTRY FARMS & HATCHERY,** Dept. 16, TIFFIN, OHIO.

Baby Chicks: 50,000 S.C. White and Brown Leghorns at \$10.00 per 100. \$90.00 per 1,000. Safe arrival guaranteed. Also Hovers and Brooders. Catalogue free. **Wolverine Hatchery,** Box 2221, Zeeland, Mich.

JOHN'S big beautiful hen-hatched Barred Rocks, good layers. Breeding pens (5 birds) \$10 to \$20. Eggs \$3, \$2.50; 100, \$7. Circulars. Photo. John Northon, Clare, Mich.

Barred Rocks: EGGS FROM STRAIN with records to 297 eggs a year, \$2 per 15. Delivered by parcel post, prepaid. Circular free. **Fred Astling,** Constantine, Mich.

Barred Plymouth Rock Eggs from full blood stock winning strain. **J. A. Barnum,** Union City, Mich.

Barred Rock Eggs for hatching, \$1 per 15 or \$5 per 100. **GEO. D. CLARKE,** R. 2, Lowell, Mich.

Ferris White Leghorns
Special summer prices now, on hens, breeding males, eggs for hatching and day-old chicks. Eight-week-old pullets ready June 1st. Write for catalog and price list. **Geo. B. Ferris,** 934 Union, Grand Rapids, Mich.

CHICKS, are booking orders now for spring delivery, different varieties, free booklet. **Freeport Hatchery,** Box 12, Freeport, Michigan

Baby Chicks pure bred Youngs S. C. W. Leghorns and P. B. Rocks, 8 cents and up. Catalogue free. **M. Knolls Hatchery,** Holland, Mich., R. 3

Grange.

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

AMONG THE LIVE GRANGES.

A Night of It.—Cloverville Grange, of Muskegon county, was organized by Bro. C. I. Giles five years ago. The meeting place of this Grange is located about seven miles east of the city in a locality where there are few other social attractions. Among the members of this Grange are several very active workers. From the first they have been putting forth splendid effort for the good of the community. Soon after its organization, the Grange arranged for a rally and secured the writer to speak at the meeting. Since then a number of the principal speakers upon Grange topics have been heard there. Early in its history the members began working for a hall, and now a good two-story building accommodates the community very nicely. On Saturday evening, April 21, was held the fifth anniversary. The writer had been asked to speak at this meeting, but a change in the time of the train which he intended to take seemed to make it impossible for him to reach the place of meeting in time to be of any service to the people. Imagine our astonishment on telephoning to them that our train had changed time suddenly and would not reach Muskegon until 9:40 p. m., to hear them say, "Come right along, we can drive the distance in a few minutes and the Grange will simply have to wait until we get there." A fine crowd of pleasant people were in waiting and they proved then as they did two or three hours later, that they were very good waiters. A good local program was rendered by the Grange, Brother Giles told of the organization, and the writer spoke upon the subject, "The Grange and the Community." Among other good local numbers was an unusually fine poem by Mrs. Paulson. It was indeed one of the best efforts of the kind that we have listened to in our experience in the Grange field. In it the writer told the story of the organization and the growth of Cloverville Grange in a most pleasing manner. The time came at last for the closing of the program. No one asked what time it was, and I am not going to venture a guess. The cooks had been very busy down below, but no one expressed an opinion as to whether they had prepared a supper or a breakfast. We are going to leave the reader to imagine, and simply state that this particular part of the program was not slighted, either by those who served or those who were the recipients of their hospitality. Cloverville Grange has a live lecturer, its members do a considerable business through trade contracts, and its meetings are fairly well attended. Here, as elsewhere, the faithful few are in evidence and are doing the work and making the sacrifices for which they are noted. Because they are on hand, everywhere people unite for mutual help, Granges keep going, the people who live out in the open country come together, for the good that is in store for them, and whether the organization be a Grange, or any other rural organization, it seldom fails to justify the effort put forth in its maintenance because the "faithful few" are there and will not give up, but will work all the harder when "The Quitter" stays at home and says, "Farmers will not hang together, I can buy cheaper outside the Grange than inside, our programs don't amount to anything any more, nobody goes to Grange now, I have been there twice and no one else came, I guess our church is going down, nobody goes any more, I am going to quit, too." Sometimes I just stop and wonder what would become of the world were it not for "the faithful few."

W. F. TAYLOR.

Belding Grange was organized April 25, 1914, and is the baby Grange of Ionia county. The members are all enthusiastic. We have held three fairs, last fall the premiums amounted to over \$200. The board of commerce always co-operates with the Grange, which now has a membership of 114, with a class of five candidates who have taken first degree and several applications, two having already been accepted by ballot. We have also held a "Booster" meeting, entertained Ionia County Pomona twice, and are now completing plans to entertain Pomona in May. We entertained the Belding board of commerce with a fine spread, and a field day of sports when prizes were given. We have been active along the line of co-operative buying, and are planning this year a much

Farmers' Clubs

Address all communications relative to the organization of new Clubs to Mrs. J. S. Brown, Howell, Mich.


CLUB DISCUSSIONS.

Discuss Government Ownership.—The Odessa Farmers' Club was entertained at the home of Mr. and Mrs. W. S. Augst, Saturday afternoon, April 14. President B. F. Carter called the meeting to order and all joined in singing America. Roll call was responded to by "What shall we do on rainy days?" and was a very interesting part of the program. W. S. Augst opened the first subject for the afternoon, "Should Our Utilities be Owned by the Government?" This topic was well discussed and many good things brought out, which was more enjoyable to hear than to read about. Mrs. Klahn read a paper, "The Development of Agriculture in America." The usual discussion followed the reading of the paper. The next number was the question box which was amusing and helpful. The meeting was adjourned to meet with Mr. and Mrs. Harry Green in May. The last, and not the least incident of the afternoon was the supper served by the hostess and her daughters and grand-daughters. This social hour is a very pleasant one in the Farmers' Club.

A Patriotic Meeting.—The April meeting of the North Owosso Farmers' Club was held at Hill Crest, the fine farm home of Mr. and Mrs. Paul Amos. Members and guests were made welcome by Mrs. Amos. After a fine dinner had been served the meeting opened by the Club singing the Star Spangled Banner. Mrs. G. M. Getman read several articles of interest under Current Events. Women need to be economical, do not prepare or serve more than is necessary for the table. The supreme test of the nation has come; the men and women who do the work at home will be serving their country as much as those who are on the battlefield. Mrs. Place's article on making other people work seems easy enough; we speak of the faculty for using the labor of others for some end; of directing it so there will be no haste, no waste; it is a far rarer gift than the ability to labor with our own muscles; this executive faculty of getting the best out of others is of course most appreciated in men who fill great positions in armies or in nations where the chief can only map out the large lines of the enterprise, and must leave all detail to subordinates in their respective degree. The same faculty appears in the housekeeper; lack of that faculty is one of the chief causes of the servant problem. First, when you give orders, see that they are obeyed; second, put yourself in the place of those under you; third, learn system, work thoroughly planned is half done. Mr. Linton, teacher of agriculture in the Owosso schools, gave an excellent talk on "Fruit Trees and their Enemies," also remedies for the same, and when to use them. "What Are we Doing for Our Country?" Mr. Stewart said he was working hard to produce crops for food, then hand them out to take what he could get for them. Mr. Carson said he could not boast of having been a soldier, but some of his ancestors had been. His father, grandfather and great grandfather had all done work for their country. Mr. Place thought that all kinds of grain sold should be used for food, and not go to the breweries or a distillery. A rising vote of thanks was extended to the host and hostess. The May meeting will be held with Mr. and Mrs. F. W. Galloway on May 17.

larger amount of orders. At our last meeting a buying agent was appointed to assist the secretary. We have set our mark to have a membership at the close of this year of 150. Our latch string is always out to all members of the Order over the state.—Mary E. H. Coville, Sec.

East Casco Grange entertained Allegan County Pomona April 26, with an attendance of about 235 persons, nearly eighty of whom were from other Granges. There were three sessions, that in the forenoon being a business session for members only. In the afternoon, the meeting was open to the public. J. C. Ketcham, master of the State Grange, was the principal speaker at the afternoon session and his address on preparedness is declared by many to be the best of the many he has given at East Casco meetings. The evening session was devoted to giving the fifth degree or the degree of Pomona. Twenty-eight candidates were initiated in this degree.



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S. C. White Leghorns

We have about 40 S. C. White Leghorn cock birds for sale. These males are from 200 egg strain and are offering them for \$3 each. Also about 200 fine April hatched pullets at a great bargain. Eggs for hatching March and April \$5 per 100. We will gladly give references on all our sales.

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FOR SALE Pure bred White Plymouth Rock Eggs for hatching. **CHAS. KLETZLEN,** BATH, MICH.

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"30 years Experience—Insures Quality."

BUFF LEGHORNS Pullets, Hens, Pens, Eggs. All very reasonable. **Dr. William A. Smith,** Petersburg, Mich.

For Sale Bred to lay S. C. W. Leghorn hens at \$2 each, bred from 280 to 290 egg stock; also eggs for hatching. **Leon C. Wheeler,** Barryton, Mich.

Fowler's Buff Rocks, I am now booking orders for eggs at \$1.50 for 15, \$3 for 30, \$4 for 50, \$7 for 100. Pen No. 1, \$4 for 15. Also one 2 yr. old White Holland Tom. **R. B. Fowler,** Hartford, Mich.

EGGS for setting from R. C. Brown Leghorns, leading strains in America. Also W. China Geese and M. Pekin ducks. **MRS. CLAUDIA BETTS,** Hillsdale, Michigan

Eggaday White Wyandottes, Eggs \$1.25 per 15; \$2.25 per 30; \$4.50 per 100. **EGGADAY RANCH,** Marshall, Mich.

Improve Your Poultry. My Young's Strain S. C. White Leghorns are great money makers. Strong, vigorous, bred-to-lay stock. Baby chicks \$3 to \$11 per 100. Satisfaction guaranteed. Large orders filled. Free catalogue. **W. Van Appledorn,** Holland, Mich., R. 7, Box 141.

MORSE'S White Leghorns, State Cup winners. Bred for eggs for years. Now selling eggs, chicks and stock. Free catalog. **Rufus Morse,** Belding, Mich.

RHODE ISLAND REDS and PLYMOUTH ROCKS Males 5 to 12 lbs. according to age \$2 to \$5; P. R. hens weight 5 to 10 lbs., eggs 15 for \$1.50; 100, \$6; 120, \$7.20. Mammoth Bronze Tom Turkeys, 8 to 18 lbs. according to age \$6 to \$25, 10 eggs \$4. **A. E. Cramton,** Vassar, Mich.

ROSE COMB BROWN LEGHORNS

Eggs from prize winners. Farm range. Prices: 15 eggs \$1; 100 eggs \$5. **D. ELON SPOTTE,** Hillsdale, Mich.

R. I. Red Chicks and Eggs. Both Combs. Dark Red. more Michigan farmers than any other strain Catalogue free. **Interlakes Farm,** Box 38, Lawrence, Mich.

RINGLETS' Barred Rocks. The famous show and laying strain Eggs \$2.00 for 15. Delivered by Parcel Post from selected matings. Plain View Stock Farm J. W. Saliard, Prop. Res. W. St. Claire St., Romeo, Mich.

Rose Comb Rhode Island Reds, Rose and Single Combs. Eggs, \$1.50 per 15 after Feb. 15. **Jennie Buell,** Ann Arbor, R. 8, Mich.

Increase Poultry Production

EVERY poultry man and farmer, or farmer's wife, should participate in the coming food production campaign by raising more poultry to help alleviate the great shortage of meat and eggs.

It is the hope of the leading poultry experts of the country, according to Prof. Burgess, of M. A. C., to increase the food supply 100,000,000 pounds by increased poultry production. Michigan's share of this increase is 2,000,000 pounds. To accomplish this every farm should grow a larger number of chicks than it ever did and in order to do this many will have to use strenuous efforts because they became frightened at the high prices of grain last year and sold themselves short.

Poultry Still Profitable.

However, the prices of both poultry and eggs have advanced so that there has been good profit even though high-priced grain has been fed. The prices of poultry products will continue high for several reasons. The shortage of poultry stock throughout the country will first have to be made up and even though there might be a big increase over normal in poultry production the shortage of meat and other animal products is very serious and will remain so for several years because it takes a longer time to overcome a shortage in animal products than it does grain. The world-wide shortage of grain which will likely continue for some time will also assure high prices for all poultry products.

With eggs going into cold storage at thirty-five cents per dozen it shows that there are some people confident of high prices. It is usually figured that December prices for eggs are double those of the hatching period. Many are predicting a dollar a dozen for eggs next winter and from present indications this would be entirely probable. With present market quotations for poultry at twenty-five cents per pound would also indicate continued high prices for future Sunday dinners.

Production Should be Increased.

With indications as they are the farmer should have faith in the future and devote every effort to increased poultry production this spring. Most every farm can double its amount of poultry with but little extra care except when the chicks are young. There is enough waste products on every farm to partially feed a much larger number of chickens than are now kept. To a certain degree these waste products can replace the regular ration without any detrimental results.

The incubators should be kept busy, day-old chicks should be bought, or any method used which will make available a large number of young chicks. A large surplus over the requirements for a flock to be kept over should be raised.

The earliest pullets should be kept for winter laying as they are fully developed when cold weather sets in and start laying in early winter. The cockerels not needed for breeding, the early pullets that do not look vigorous, and what late ones are not needed to fill the quota, should be separated out and fattened for market as soon as possible. Only enough cockerels should be kept to mate with hens which have been kept for breeding purposes.

In these days of high prices for feed no more male birds than necessary for breeding should be kept, and if possible keep the males separate from the females except during the breeding season, as the chickens will lay better and the eggs will keep better because they are not fertile.

A Good Fattening Ration.

A good fattening ration for poultry is forty pounds of corn meal, forty pounds of middlings, twenty pounds of bran and ten pounds of beef scrap. The fattening period should be from ten to twelve weeks. If buttermilk or

some skim-milk is available, only from five to seven pounds of beef scrap is necessary.

The little chicks, forty-eight hours after being hatched, should have available some grit, charcoal is also good. Then a feed of equal parts of bran and oat meal five times a day or bran with raw egg mixed in it so that there is one egg to every 100 chicks for each of the five meals. After about a week of this feeding, commercial chick feed should be substituted for the last feed of the day. In about three days replace one of the morning feeds with commercial chick feed. Throw this in clover chaff or cut straw litter to make the chicks exercise and to prevent toe picking. Gradually change to chick feed entirely and then also gradually change to larger sized grains. Feed some skim-milk or buttermilk from the start, and sprouted oats after the third day until they can get their own green food.

Keep the chick quarters and feeding utensils clean and immediately dispose of chicks which show signs of disease. The rations given above are some of the most simple and effective for raising chicks.

Substitutes for High-priced Feeds.

There is no efficient substitute for high-priced feeds. One large poultry raiser has fed cull beans to mature stock with good results. He cooks the beans in a feed cooker until they are soft and crumble easy. This is mixed with equal parts of bran and fed as a mash. Another poultry man uses old bread for young chicks, mixing it with a large amount of bran, some corn meal and a small per cent of beef scrap. This bread is softened in sour milk, and the mash is mixed so that it is dry and crumbles easy.

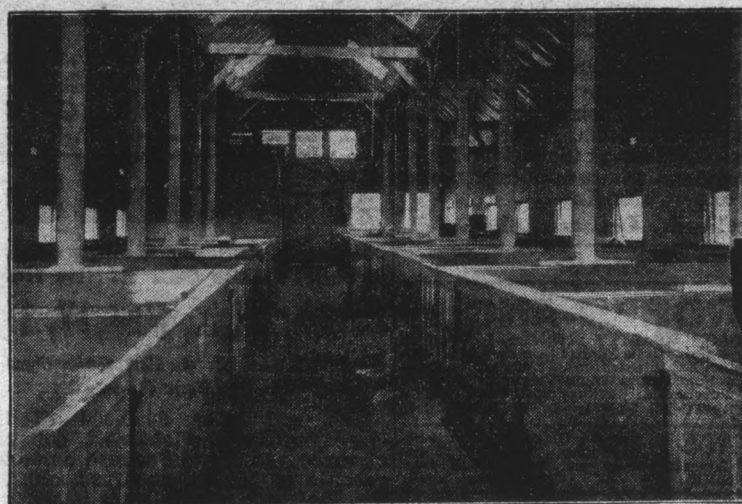
Most any kind of a house will do which has sufficient light and ventilation, and freedom from drafts and dampness. Sheds can easily be converted into poultry houses, and even barns. The house preferred by one extensive poultry raiser is made from a building 35x70, which is built much like a barn. The ground floor is used for feeding and scratching, and one-half of the loft is used for roosting, while the rest is used for storing of feeds. A house arranged along these lines is especially adapted to Leghorns or any of the light breed. A barn could easily be fixed up in this way.

A Good Egg Producing Ration.

Simplicity in feeding has proven just as effective as the use of complex rations. The poultry department at M. A. C. has found that the following simple rations are effective in getting egg production: Ground oats and bran, in equal parts, with ten per cent of beef scraps makes a very good mash. For grain to be fed in the litter corn and wheat, and in separate drinking fountains water and buttermilk or some skim-milk, buttermilk being preferred because it does not separate from the whey as does sour milk. For green food when the chicks are confined, sprouted oats or roots.

The Michigan farmer is awakening to the importance of poultry and is realizing its value on the farm as a user of waste products, a controller of insects and as a source of added profit to the farm. He is taking better care of his poultry and is breeding better stock, but if he is going to do his share in what should be the poultry production of the country in these strenuous times, he must get busy and keep busy this spring to increase the size of his flock. His efforts along this line are needed and his reward will be ample.

Feed hoppers for the laying mash, grit, oyster shell, charcoal, etc., can be made out of left-over scrap when building a poultry house or small packing boxes can be used for the same purpose.



Where concrete floors and partitions are used, there you will find healthy, profitable hogs.

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Concrete hog houses, concrete feeding floors and concrete hog wallows mean healthy, money-making hogs. Concrete is easy to clean and to keep clean. Rats, mice and lice can't make their homes in it. Feed is not wasted by being tramped into the mud.

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Pine Crest S. C. White Orpingtons, cockerels, pullets, eggs \$5 and 3 per 15, utility \$3.00 per 100. Eggs half price after May 15th. MRS. WILLIS HOUGH, Pine Crest Farm, Royal Oak, Michigan.

Barred Rock Eggs Four pullets laid 950 eggs in one year. W. C. COFFMAN, R. 3, Benton Harbor, Mich.

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On account of abundant orders, we cannot promise Day-Old Chicks until June. We can still supply

Eggs for Hatching

Rocks, Reds, Wyandottes, Black Minorcas and Leghorns; Geese, Ducks and White Holland Turkeys. Cockerels and pullets of our several breeds can be supplied from July on thru the autumn months and we invite inquiry from any who want any of these fowls. HOMESTEAD FARMS, Bloomingdale, Mich.

BRED-TO-LAY Barred Plymouth Rocks, Eggs 15 for \$1.00, 30 for \$1.75, 60 for \$2.50. L. G. SLY, Box 991, Harrison, Mich.

BARRED Rock Hatching Eggs, from prize winning stock. 30 eggs \$2.00, 50 eggs \$3.00, 100 eggs \$5.50. Order from this add. Sam Stadel, Chelsea, Mich.

R. and S. C. Reds Eggs and Chicks. Pure bred stock. Also good Scotch Collie Pups. O. E. Hawley, Ludington, Mich.

RODE I. Whites win in the egg laying contest. Best Eggs and market fowl. Eggs \$2 per 15, \$5 per 45. Baby chicks. H. H. Jump, Jackson, Michigan.

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S. C. W. Utility eggs, \$5 per 100. HILL-CREST POULTRY FARM, Ypsilanti, Michigan.

Single Comb Black Minorcas Great big cockerels sired by a 10 lb. cock bird. R. W. Mills, Saline, Mich.

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S. C. White Leghorns Size, shape, vigor, egg production. Hatching eggs \$5. Baby Chicks \$11 per 100. 15 years in the hen business. A. O. Howard, Tecumseh, Mich.

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SILVER Golden and White Wyandottes. Eggs from some grand matings. \$1.50 per 15, \$2.50 per 30. Large vigorous birds. C. W. Browning, R. 2 Portland, Mich.

Buff Wyandotte Cockerels \$3 each. Also Barred Rock and Wyandotte eggs for hatching. \$1.35 per 15. Mrs. R. W. BLACK, Caro, Michigan.

WHITE Wyandottes. A. 1 layers. Eggs for hatching, \$1. \$2. \$3 for 15, \$7 per 100. Special matings \$5 for 15. DAVID RAY, 708 Norris St., Ypsilanti, Michigan.

White Wyandottes, winter & summer layers. Eggs \$5 50 per 100 Baby Chix \$12 per 100. Satisfaction guaranteed. Hemlock Poultry & Stock Farm, Prescott, Mich.

TRY some Silver Spangled Hamburg eggs for hatching. The Dutch everlasting layers White Holland Turkey eggs. Fine Belgian Hare Does bred to high class Bucks. Pedigreed. Stamp for circulars. Riverview Farm, Yassar, Mich.

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Mammoth Bronze Turkey Eggs 10 for \$3.65. Parcel Post. by insured Ralph Wise, Plainwell, Mich.

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Bulls by BLACK QUALITY ITO, sire, First prize,
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Holstein Calves, 10 heifers, and 2 bulls 15-16ths pure.
His weeks old, beautifully marked, \$20.00 each, crated
for shipment anywhere. Edgewood Farm, Whitewater, Wis.

REG. HOLSTEINS: Herd headed by Albina Bonte
Buller Boy No. 93124. Dam's record at 6 yrs. butter
28.54 lbs. milk 619.4. Yearly record at 2 1/2 yrs. butter
802 lbs. milk 18622 lbs. W. B. READER, Howell, Mich.

Cluny Stock Farm
100 REGISTERED HOLSTEINS 100
THE MILK AND BUTTER KIND

Five splendid bull calves sold since January 1st, 1917.
Three more ready for sale at this time. One from a
sire whose dam holds sixth highest yearly butter rec-
ord. One from a sire whose three nearest dams aver-
age 30.6 lbs. butter and 658 milk in 7 days. One from
a son of Colantha Johanna. Last whose 7 nearest dams
average 28 lbs. of butter and 587 lbs. milk.
Write for pedigrees and prices.

R. BRUCE McPHERSON, HOWELL, MICH.

OAK LEAF FARM

Herd Sire

Ypsilanti Sir Pietertje De Kol
Service bulls all sold. Buy a calf and raise it. Fine
individuals 4 and 5 months old. E. H. Gearhart &
Son, Marcellus, Mich., R. No. 4.

REG. Holsteins. Place your order now for a bull calf.
I have cows due to freshen soon, bred to the best
bull in Mich. Elmer E. Smith, Redford, Michigan

REG. Holstein Bull, ready for service. Sired by a
half-brother of World's Champion cow. Send card
for pedigree & price. E. R. Cornell, Howell, Mich.

Parham's Pedigree Stock Farm Holstein Cows,
Male Calves, Show Bull ready for service no akin to
cows, priced \$125. R. B. PARHAM, Bronson, Mich.

842 Lbs. BUTTER
Is the average of the semi-official records of our herd
bull dam (at 2 yrs.), his grand-dam (at 3 yrs.) and his
great-grand-dam. Three choice young bulls from A. R.
O. dams. Herd tuberculin tested annually. Holsteins
of course. Peaceland Stock Farm, Three Rivers, Mich.
Chas. Peters, Herdsman, C. L. Brody, Owner, Fort Huron, Mich.

Jerseys and Duroc Jerseys

The most important thing in buying a Jersey bull is to get one backed up by generations of high
producers.

Brookwater offers to sell a few choice bull calves of this kind.

They are selling—get yours soon. Also Duroc Jersey Fall Boars ready for spring service. Full
particulars and price on application. Better yet, visit the farm.

H. W. MUMFORD, OWNER, **BROOKWATER FARM**, O. F. FOSTER, MANAGER,
Ann Arbor, Mich., R. 7.

Third Annual Sale

of The Livingston County Holstein
Breeders Sale Co., Will Be Held at

Howell, Mich., May 17, 1917

At 10:30 A. M. at the Sale Pavilion
on the Fair Grounds

We will offer 90 head of high-
class registered Holsteins, consisting
of three young bulls whose dams have
records of 25 lbs. at 3 yrs. old, 29.68
lbs., and one whose dam has a semi-
official record of nearly 25,000 lbs. of
milk in one year, and the balance cows
and heifers of choice breeding, over 50
have records or are from record cows,
many of them are sired by 30-lb. bulls.
Our reference sires are a high-class lot,
several have dams with records from 30
to 35 lbs., and are by some of the best
known bulls of the breed. Catalogs
May 5th.

F. J. Fishbeck, Sec'y, Howell, Mich.



Purebred Registered HOLSTEIN CATTLE

The broad highway to success is persistent
and intelligent application to something worth
while. A successful 60 year old dairyman said, "I
have made the greater part of my money since I
was forty-five. Up to that time I was making mis-
takes. I corrected a host of mistakes and ideas a-
bout cows and have made nearly all the money I
have since that time." The difficulty is that some
dairyman never wake up. Any farmer who will de-
vote a short time to a study of the supremacy of
Holstein-Friesian cattle as profitable milk pro-
ducers and as dual purpose cattle will be able to
turn his dairy operations to a profitable basis.
Send for free literature. There's big money in
the big "Black and White" Holsteins.

Send for FREE Illustrated Descriptive Booklets
The Holstein-Friesian Association of America
F. L. Houghton, Sec'y., Box 164, Brattleboro, Vt.

Choice Reg. Holstein Bulls

1 to 12 months old at Farmers Prices.
LONG BEACH FARM, Augusta, Mich.

WINNWOOD HERD

John H. Winn, Inc., Holton, Mich.

Reference: Old State Bank, Fremont, Mich.

Have for sale 6 Maplecrest Korndyke Hengerveld
Holstein bulls. One 12 months; one 6 months; one 2
months, all out of A. R. O. dams. One made 19 lbs.
butter in 7 days as a Jr. 2 year old. Another 21 lbs. in
7 days as a Jr. 3 year old. Also have five others, same
breed from 2 to 6 months. Must sell at once, need the
room. Our prices will surprise you. John H. Winn,
Holton, Michigan.

1200-lb. Bred Young Bull

Ready for service. The sire Maplecrest De Kol Hengerveld
own brother to a world's champion junior 4
year old, 1203 pounds of butter in a year. Brother, in
blood, to the ex-champion cow, record 1322.93 lbs.
butter in a year. Write for pedigree and price.
HILLCREST FARM, F. B. Lay, Mgr.,
Kalamazoo, Mich.

Ten Good Young Holstein Cows For Sale

I want to sell as soon as possible, TEN GOOD YOUNG
cows. Most of them are bred to "The Milk & Butter
Champion" a son of a world's Record milk cow and his
sire is a son of a world's record butter cow. We will
have more cows than we can milk this Spring. So this
is your chance to get a few good ones. Also have bull
calves and a few bulls ready for service.
L. E. CONNELL, Fayette, Ohio

Holstein and Guernsey Heifer and Bull Calves

Choice selected promising dairy calves, practically pure
Holstein and pure Guernsey, but not registered, nice
color. \$20.00 each, all express paid to any point.
MEADOW GLEN, Whitewater, Wis.

Butter Fat Counts

Holstein Bull Calves from a 30 lb. 6.53 Sire. Dam
are grand daughters of the King of the Potlagers.
Their dams grand daughters of Sadie Vale Concordia
the first 30 lb. cow. Edwin S. Lewis, Marshall, Mich.

REG. Holstein Bull Calf born Nov. 13, 1916. Dam A.
R. O. 20.51, very choice animal, \$60.00 reg. and del.
J. ROBERT HICKS, St. Johns, Mich.

For Sale A Yearling Heifer, pure bred Hol-
stein Sire, Colantha Johanna Cream-
elle Lad, Dam, Elizabeth Segs Lyons. If you want
something good, write, Geo. D. Clarke, Vassar, Mich.

Cows For Sale Some good grade cows, Holsteins and
Jerseys. Making room for young stock,
producing from 8,000 to 12,000 pounds yearly on two
milking daily, sound and healthy, can furnish
records and photographs. Also good grade calves
and yearlings. CHARLES STAFF, 1199 Woodward
Avenue, Detroit, Mich.

Two Choice Registered Two year old Heifers will
freshen in the next 60 days,
fine individuals, and well bred, \$30 each, don't wait
a month if you want these, they will go, to the first
man sees them.
J. M. WILLIAMS, North Adams, Mich.

FOR Sale registered Holstein Cow, 6 years old, finely
marked and good type. She has 3 daughters, 2 A. R. O.
C. L. HULETT & SON, Okemos, Mich.

High Grade Holstein Heifers

Fresh or soon to freshen. Also grade Holstein Bull.
Prices reasonable. THE JENNINGS FARMS
V. M. SHOESMITH, General Manager, Bailey, Mich.

2 Holstein Heifers by a 24 lb. bull in calf
22.92 lb. dam. 30.21 lb. sire. Terms if wanted.
M. L. McLAULIN, Redford, Michigan.

Registered Holstein Friesian Heifers, 3 to 6
mos. old. Some from 30 lb.
sires. Priced to sell. Fred J. Lange, Sebawaing, Mich.

HOLSTEINS

We have 25 Registered Females for im-
mediate sale. They are surplus stock of
our own breeding and foundation herd.
Will make specially low prices and sat-
isfactory terms to move quickly.

YPSILANTI **Ypsilanti Farms** MICHIGAN

BULL CALF for sale, Pontiac Korndyke Breeding,
Dam gives 60 lbs. milk per day at 2 years. Farmers
Prices. JOHN A. RINKE, Warren, Mich.

Registered Holstein Bulls, ready for service, closely
related to the 50 lb. cow.
Prices to sell. B. B. REAVY, Akron, Mich.

20 Herefords BOTH SEXES
EARL C. McCARTY, Bad Axe, Michigan

HEREFORDS

10 Bull Calves from 4 to 12
months old.

ALLEN BROS., PAW PAW, MICH.

FOR SALE Twenty-five Jersey cows,
two to eight years old.
Eight registered, balance high grades. Excellent pro-
ducers, guaranteed right. Also some bred yearling heif-
ers, registered and high grades. Also some fall heifer
calves from above stock. Good reasons for selling. Bell Phone—
Hadley, P. O. Metamora, Mich. R. 1, C. E. Hodgson, L. H. Riley.



Buy a Jersey Bull!

The improvement of your herd
depends chiefly on the selection
of the right sire. Get the best.
Read the ads of Jersey breeders
in this and other papers. Write
them at once for prices, pedi-
grees, and plan to grade up your herd. Jersey
bulls are strongly prepotent and you'll find
even grade Jerseys surprisingly profitable.

Send for our free book, "The Story of the
Jersey," and learn the truth concerning this
great breed.

The American Jersey Cattle Club
346 West 23rd Street, New York City

Jersey Bulls for Sale from high-producing dams, with
testing Assoc. records, also on
semi-official test. C. B. Wehner, R. 6, Allegan, Mich.

Jersey Bulls for sale, ready for service. Out of
good producing dams. Prices right.
R. B. FOWLER, Hartford, Mich.

JERSEYS FOR SALE Young bulls
service from R. of M. ancestors. Meadowland Farm,
Waterman & Waterman, Packard Road, Ann Arbor, Mich.

FOR SALE Yearling Jersey bull from regis-
ter of merit stock. HILLSDALE
FARM JERSEYS. Great producers.
O. & O. DEAKE, Ypsilanti, Michigan

Maple Hill Farm Registered Jersey Cattle
Stock under 2 1/2 years all sold.
J. R. Worthington, R. No. 7, Lansing, Michigan

Lillie Farmstead Jersey Cattle. Bull calves from R.
of M. Cows, also heifer calves and several bred
heifers for sale. Colon O. Lillie, Coopersville, Mich.

The Wildwood Farm

Breeder of Line bred Majesty strain of Jersey Cattle.
Herd on R. of M. test. Tuberculin tested. Bull calves for
sale. Type & Production is our motto. Alvin Balden, Capac, Mich.

Maple Lane R. of M. Jersey herd offers for sale
tuberculin tested cows, bulls, bull
calves and heifer calves, carrying the best R. of M.
blood of the breed. IRVIN FOX, Allegan, Mich.

Shorthorn Cattle of both Sex for Sale
W. W. KNAPP, Howell, Michigan.

**Bidwell Shorthorns**

"For Beef and Milk"

This heifer at 6 months has bone,
size and quality—our own breeding.
The blood of Scotch bulls, Imp.
Shenstone Albino and Imp. Villager
Registered stock always for sale.

BIDWELL STOCK FARM,
Box B, Tecumseh, Michigan.

RICHLAND SHORTHORNS

Sires in service, Village Archer and Albion Crest. 1st.
prize 2 year old and Junior Champion at the Mich.
Stat Fair in 1916. We offer a number of young bulls and
females for sale. Also some Aberdeen-Angus bulls of
serviceable age reasonable prices. Write your wants.
Tawas City, Mich. C. H. Prescott & Sons, Prescott, Mich.

Francisco Farm Shorthorns Big Type Poland Chinas

"They're rugged—They pay the rent."
Nothing for sale at present.
P. P. POPE, R. R. 3, Mt. Pleasant, Mich.

FOR Sale—Reg. Short Horn Bulls by Maxwellton
Monarch 2nd, a son of Avondale, from 11 to 13 mos.
old. John Schmidt, Reed City, R. No. 5, Michigan.

Shorthorns For Sale Young bulls ready for
service, also cows and
heifers. W. B. McQuillan, Howell, Michigan.

Shorthorns For Sale. Young bulls \$100. Bred cows,
and heifers \$150 for quick sale.
Write W. J. BELL, ROSE CITY, MICHIGAN.

Bates Shorthorns. The original milk strain.
No stock for sale at present.
J. B. Hummel, Mason, Michigan

PERTINENT LIVE STOCK HINTS.

(Continued from page 587).

possible for him to masticate food
properly; besides, it often prevents
sore tongue and cheeks. Very often
slight tooth ailments in young grow-
ing stock cause waste of feed and
stunt their growth. Are you sure that
none of your live stock are lousy?
Lice are blood suckers—it is less ex-
pensive to kill them, than to furnish
feed to nourish them.

It always pays to furnish every work
horse and mule with a nice fitting col-
lar. It prevents sore neck, sore shoul-
ders, and keeps him in good condition
for work every day. Clip your rough,
shaggy coated horses and mules; it
saves grooming, too profuse perspira-
tion, loss of flesh and strength, and is
quite a saving of feed. A nice-fitting
harness is a comfort to a work horse.
Keeping your wagon greased, lightens
the load and saves oats. Keep your
stable clean and well supplied with
fresh air. Prepare a clean place for
your mare to foal in. Don't forget to
treat the navel of every colt and calf
at birth—not necessary to tie the cord,
only apply one part tincture iodine and
two or three parts glycerine once or
twice a day to stump of cord until it
withers completely.

Water horses before feeding them
grain—it often prevents indigestion
and colic. Horses should be watered
often, and always before bed time. A
good soft, clean bed is of about as
much value to a work horse as one
quart of oats. At present it pays best
to raise sound heavy draft horses or
large mules, for the lighter breeds are
not now much in demand. Don't forget
that kindness has an economic value in
the handling of horses.

Now a word about cattle. Are you
sure you are not keeping the wrong
kind of cattle? Every one of your
cows should produce enough to pay her
board. If not, why keep an unprofit-
able cow any longer? Save and raise
all your best heifer calves—they are
needed. Nearly all udder ailments of
cows can be prevented, but when they
occur, they should be promptly treat-
ed. If your herd is infected with con-
tagious abortion, get busy and eradi-
cate it. It's no lazy man's job; but if
strict sanitary measures are adopted
and persisted in, you will soon have
the disease under control. Remember
the dead calf and afterbirth should be
burned; the aborting cow removed
from the healthy, pregnant cows or
mares. Sows and ewes are seldom af-
fected. The aborting cow should be
treated when she miscarries, this will
often prevent barrenness. The herd
bull should be treated before and after
service. This will greatly assist in
preventing the disease spreading. In
the year 1907 we had in the United
States 72,533,996 cattle—now we have
only 63,617,000, and in 1903 we had
63,964,870 sheep, and now we have less
than fifty million. The sheep-killing
dog is doubtless partly responsible for
this decrease in the number of sheep;
therefore he should be exterminated.
Now is the time for farmers to save
heifer calves and ewe lambs.

We had in this country nearly as
many hogs in 1916 as in 1917, there-
fore, I advise you to save your best
young sows for breeding purposes.
Pork will perhaps never be cheap
again. There is now very little danger
in losing hogs from cholera, if you do
not delay the immunity treatment of
them too long. The hog is a valuable
asset on the farm, but it must be ad-
mitted that many of them do not re-
ceive the right care and careful atten-
tion that they are entitled to. If a
clean disinfected separate pen was fur-
nished each sow to farrow in, and if
her udder was thoroughly cleaned be-
fore she farrowed, fewer young pigs
would be lost. Feeding an unbalanced
ration to pregnant sows and growing
pigs has a whole lot to do with them

losing the use of their hind quarters; besides, they do not have sufficient exercise and are kept in altogether too filthy quarters to be well.

The farmers of this country would find it profitable to keep twenty-five per cent more poultry than they are keeping; besides, they should give their fowls better care and more attention. Friends of the writer who are the most successful poultrymen he knows, keep but one breed and pay strict attention to the feeding, breeding and management of their stock. They are exceedingly painstaking in keeping the hen house clean, the disinfecting of incubators and stamping out of any disease that may make its way into their flock. There will always be a splendid market for eggs and fowls.

During these war times it is our solemn duty to get busy, make the best of what we have, and for the sake of starving humanity, strive to increase the production of live stock and farm produce in this country, for surely it is all badly needed—not only at home, but abroad. Come, let us all get busy to help others, for by doing so we shall be well repaid for our efforts.

Veterinary.

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

Indigestion—Elbow Tumor—Swollen Hock.—I have a span of colts three and four years old that are not thriving; besides, there are several small bunches under the hide. I also have a horse that has a shoe boil, and another horse that is troubled with swollen hock. J. R. H., Yale, Mich.—Groom your colts well twice a day. Increase their food supply, especially their grain ration. Give each of them a tablespoonful at a dose in feed three times a day of the following mixture: One part powdered sulphate iron, one part ground nux greek and four parts ground gentian. vomica, one part salt, one part fenugreek. Apply equal parts tincture iodine and spirits of camphor to shoe boil and swollen hock three times a week. The elbow tumor should perhaps be cut out; however, this is work for a veterinarian.

Heaves.—I have a valuable mare nine years old that recently shows symptoms of heaves. Z. J. Mayville, Mich.—Feed no clover or dusty, musty, badly cured fodder of any kind, only a little well cured timothy once a day is all the roughage she should have. If she is a ravenous eater, pot-bellied, bed her with shavings or sawdust. Grain or grass is the best summer feed; grain and roots the best winter feed for an animal in her condition. Give her 1 dr. fluid extract lobelia, 1 dr. muriate ammonia, 1/2 dr. fluid extract nux vomica and 3 drs. of Fowler's solution at a dose in feed three times a day.

Partial Paralysis.—I have a cow that came fresh April 18, calved all right, cleaned perfectly and calf is healthy. The cow is down, unable to get up without assistance, but gives no milk. She has no fever, eats and drinks well and seems to be in no pain. B. G. Ortonville, Mich.—Give your cow 1 dr. fluid extract nux vomica, 1/2 dr. fluid extract digitalis and 30 grs. potassium iodide at a dose in feed or water three times a day. Also give her a teaspoonful of acetate of potash twice a day. Her back and spinal column should be rubbed with mustard and water three times a week. Her bowels should be kept open. Gently hand-rub udder and strip her three times a day.

Itch.—For several years my hogs have been troubled with some sort of itch and I have tried several kinds of dips, but to no avail. J. B. H., Reese, Mich.—First of all, you should clean and thoroughly disinfect your hog premises; and furthermore, the hogs should be kept clean, because all dirty hogs, and I might say dirty filthy animals suffer from an itchy condition of the skin. Therefore, I am inclined to believe that you would obtain satisfactory results by keeping your hogs in a clean, dry place and applying any of the commercial dips that are regularly advertised in this paper, faithfully to your hogs. The writer obtains satisfactory results by the application of coal tar disinfectant dips in the treatment of similar cases in his practice. Therefore, there is no very good reason why you will not obtain similar results.

Are Your Hogs Lousy?



Now, let me tell you an easy, economical and effective way to rid your hogs of lice, and at the same time destroy the disease germs that may be lurking around the place. It's natural for a hog to wallow. Provide your hogs with a wallow close to the feeding grounds, to which add

Dr. Hess Dip and Disinfectant

Your hogs will be constantly passing back and forth from the wallow to the feed trough. While the Dip will kill the lice and cleanse the skin, the drip will destroy the germs of disease and the worms that pollute the ground.

One gallon makes 70 to 100 gallons of solution, ready to use. My Dip, being not only a dip but a powerful disinfectant as well, saves you the expense of buying two preparations.

DR. HESS & CLARK
Ashland
Ohio

Price, \$1.00 in gallon cans. In barrels a little less. Packages as small as 25 cents.

KALAMAZOO SILOS

Will Solve Your Silo Problems



They're built to meet the exacting farmers' needs and are the best in design, material and workmanship—combining every desirable feature a silo should have and embodying the "know how" acquired through more than twenty years experience in silo building.

Glazed Tile Silos

This construction is fire-proof, frost-proof, storm-proof, decay-proof, vermin-proof. Galvanized reinforcing. Requires no paint, no upkeep expense or repairs. First cost is the last cost—a written guarantee goes with every one.

Wood Stave Silos

Your choice of four time-defying woods. The Kalamazoo is the only factory where this outfit is manufactured complete from the raw material to the finished product. Our silos are quickly and easily erected by inexperienced home labor.

All Kalamazoo Silos are made with Galvanized Steel Door Frames, continuous doors, forming safe ladder entire height of silo.

Write today for our free descriptive booklet, and early sales plan.
KALAMAZOO TANK & SILO COMPANY, Dept. 218 Kalamazoo, Mich.

CATTLE

SHORTHORNS Maple Ridge Herd, Established 1867. Young bulls for sale. J. E. Tanswell, Mason, Michigan.

Shorthorns—Dairy or beef bred. Breeding stock all ages for sale at farmers prices. C. W. Crum, Secy. Cent. Mich., Shorthorn Breeders' Assn., McBride, Mich.

Shorthorns 3 Red Bull Calves, 6 months old. 1 Roan Bull, 2 years old, for sale. W. C. OSIUS, Hillsdale, Mich.

FOR SALE Nine months old thoroughbred Jersey Bull—New England Star, Jr.; also thoroughbred Jersey Calves and Yearlings. Births reported to Am. Jersey Cattle Club. Belding Land & Improvement Co., Belding, Mich.

HOGS.

Durocs and Victorias

Heavy bone, lengthy Spring Boars and Gilts from prize winners sired by one of the best sons of the Great Defender & other noted strains. M. T. STORY, Lowell, Mich.

BERKSHIRES—A few good fall pigs left, either sex. Also booking orders for spring pigs. Pairs no akin. Chase Stock Farm, R. 1, Marlette, Michigan.

Berkshires, Boars, serviceable age, best blood lines. Registered. ELMHURST STOCK FARM, Almont, Mich.

Duroc Jerseys bred gilts for sale priced to sell. Carey U. Edmonds, Hastings, Mich.

40 Duroc Sows and Gilts will be bred to the two best young Duroc Boars in Mich. A postal will bring description, breeding and price. Last fall boar pigs \$25 to \$40. Newton Barnhart, St. Johns, Mich.

Durocs For Sale

Big heavy boned fellows. Spring Pigs ready to ship, and a good lot of Fall Boars and Gilts. M. A. BRAY ESTATE, Okemos, (Ingham Co.), Mich.

Duroc Sows and gilts bred to Enreka Cherry King and Crimson Critic son of Critic Model 1916 champion Iowa Fair. W. C. Taylor, Milan, Mich.

DUROC Jersey fall Boars, ready for spring service. Also Gilts bred for Aug. and Sept. farrow. Spring pigs, pairs not akin. All stock shipped on approval. F. J. DRODT, R. 1, Monroe, Michigan.

Duroc Jerseys. Breeding Boars and Sept. Gilts J. H. Banghart, East Lansing, Mich.

DUROCS—Ten big smooth Sept. Gilts, also one extra good Sept. Boar by King the Col. All priced to move at once. E. D. Heydenberk, Wayland, Mich.

PINEHURST DUROCS, Choice fall boars. One great yearling boar. Choice Yellow Dent Seed Corn for sale. Orlo L. Dobson, Quincy, Michigan.

Raise Chester Whites

Like This
the original big producers

I HAVE started thousands of breeders on the road to success. I can help you. I want to place one hog from my great herd in every community where I am not already represented by these fine early developers—ready for market at six months old. Write for my plan—More Money from Hogs. G. S. BENJAMIN, R. F. D. 10, Portland, Michigan.

1/2 Ton O. I. C's. & Chester Whites 1/2 Ton

10 Oct. and Nov. boars sired by our undefeated Grand Champion School Master. The boar that has size and quality combined. All sold any age. Write and get our Catalogue its free and describes our champions. We do not say our hogs are the best but we win the champion boars for Mar. and Apr. farrow. HARRY T. CRANDELL & SON, Cass City, Mich.

CHOICE BRED GILTS

Bred to Big Prince 5602, sired by Wildwood Prince 1110 lb. 3 yr. Grand Champion at Iowa, sold for \$750. Ship C. O. D. —J. Carl Jewett, Mason, Mich.

O. I. C. Boars and Gilts all sold. I am booking orders for March and April pigs either sex, single, or in pairs not akin. A. J. BARKER, Belmont, Mich. R. R.

O. I. C. and Chester White Swine

Strictly Big Type with Quality. Gilts bred for Spring farrow, all sold. Five fine Sept. gilts bred for July farrow. Have a few good fall pigs left, either sex. We are also booking orders for early Spring pigs. Can furnish in pairs not akin. Marlette, Mich. R. 1. Newman's Stock Farm.

O. I. C. SWINE: Bred gilts are all sold. Order a pair or a trio not akin to breed in the spring. Rush in your order before they are sold. Satisfaction guaranteed. A. J. GORDEN, R. No. 3, Dorr, Mich.

O. I. C's. have some last fall gilts bred for Sept. farrow, and a fine lot of this spring pigs either sex, not akin. Farm 1/2 mile west of Depot. Otto B. Schulze, Nashville, Mich.

O. I. C. Thorough bred O. I. C. Swine all sold out except fall pigs. Grass Lake, Mich. R. D. 4. O. D. Somerville.

O. I. C'S. All sold. Booking orders for the best of our winter and spring pigs. C. J. THOMPSON, Rockford, Michigan.

O. I. C's. Buy the best and breed them better. Fall Gilts and Boars. CLOVER LEAF STOCK FARM, R. 1, Monroe, Mich.

O. I. C. bred sows and gilts all sold. A few long bodied heavy boned fall boars to offer. G. P. ANDREWS, Dansville, Michigan.

O. I. C. SWINE. Nothing to offer at present. H. W. MANN, Dansville, Michigan.

Large Type P. C. Gilts bred for March and April farrow all sold. A few good ones to be bred for June farrow. Also some good fall pigs either sex. W. E. LIVINGSTON, Parma, Mich.

S. P. C. yearly Gilts for August farrow. A few long bodied heavy boned boars ready for service. 2 nice fall boars by Smooth Jumbo. H. O. Swartz, Schoolcraft, Mich.

LARGE type P. C. Some very choice summer gilts bred to farrow in August. Will sell off of my yearling herd boars. W. J. Hagelshaw, Augusta, Mich.

Large Stiled Poland China, fall and spring pigs. at farmers prices. B. P. Rock eggs \$1.50 per lb. Robert Neve, Pierson, Mich.

POLAND Chinas bred gilts all sold, still have some choice fall pigs of large and medium type, at farmers prices. P. D. LONG, R. 8, Grand Rapids, Mich.

Big Type Poland Chinas Sept. farrow, either sex, sired by Jumbo Wood, 800 lb. hog. A. A. WOOD & SON, Saline, Michigan.

Hampshire Swine. Nothing for sale but fall boars and gilts. Write for prices. FLOYD MYERS, R. No. 9, Decatur, Ind.

Big Type Poland China fall boars. Am booking orders for spring pigs, satisfaction guaranteed. G. W. Holton, R. 11, Kalamazoo, Mich.

HAMPSHIRE SWINE My herd contains the blood lines of many of the most noted champions of the breed. My herd boar, Claytons Lad, 1823 is a brother of Look Out Lad, who was Grand Champion at the National Swine Show. I am booking orders for spring pigs, to be shipped about May 1st. Write me for prices. George E. Starr, Grass Lake, Mich.

HORSES

Auction Sale

Of Registered Percheron Horses

Tuesday May 15

Black stallion Jack, 86958, Wght. 1700

Black mare Labelle, 45695, Wght. 1500

Black mare Polly Anna, 114772, Wght. 1500, in foal

Black mare Topsy, 84430, Wght. 1600, in foal

Brown mare Daisy, 101137, Wght. 1400, in foal

Black mare Black Beauty, 101135, Wght. 1700, colt at foot

Gray mare Dolly Dimple 101136 Wght. 1600, colt at foot.

Black mare Trixie, 114773, 2 yr., Wght. 1200

2 Black stallions, 1 yr. old

All trace back to Brilliant 1271

T. B. CRAWFORD

ALMONT, MICH.

Percheron Stallions

25 Must Be Sold

Also 2 Imported Clydesdale Stallions. Spring Sale

Prices are now on

Palmer Bros.,

P. O. Belding, Ionia Co., Belding, Mich.

AT HALF PRICE

Registered Percherons. Big black stud colt coming 3.

sound and sure. Big boned rugged filly 2 part, bred by M. A. C. Also pair of mares 4 and 5 years old. Come and see them.

JNO. C. BUTLER, Portland, Mich. Bell Phone.

REGISTERED PERCHERON

Mares and Stallions priced to sell. Inspection invited. L. C. HUNT, EATON RAPIDS, MICH.

SHETLAND PONIES

Herd established 1891. 200 Head to select from. Write Dept. E for catalog.

The Shadyside Farms, North Benton, O

FOR SALE. Thoroughbred Shetland Pony, eight yrs. old. Sound and gentle, fine driver and a beauty.

ELMER E. BOWERS, R. R. No. 2, Manchester, Mich.

Percherons, Holsteins, Angus, Shropshires, Durocs

DORR D. BUELL, Elmira, Michigan.

Registered Percheron

1 stallion coming 1 year. Mares and Fillies. Priced to sell. Wm. J. Blake, Dutton, Mich.

PERCHERON Stallions, one coming five, one coming two, one coming one. Priced to sell.

E. J. ALDRICH, R. 1, Tekonsha, Mich., Bell Phone

Wanted To lease stallion, Percheron or Belgian, must be top horse, and guaranteed breeder, 25 yrs. experience. Strictly sober. Best of reference.

O. K. TUSSING, - - - Mc Bain, Michigan

SHEEP

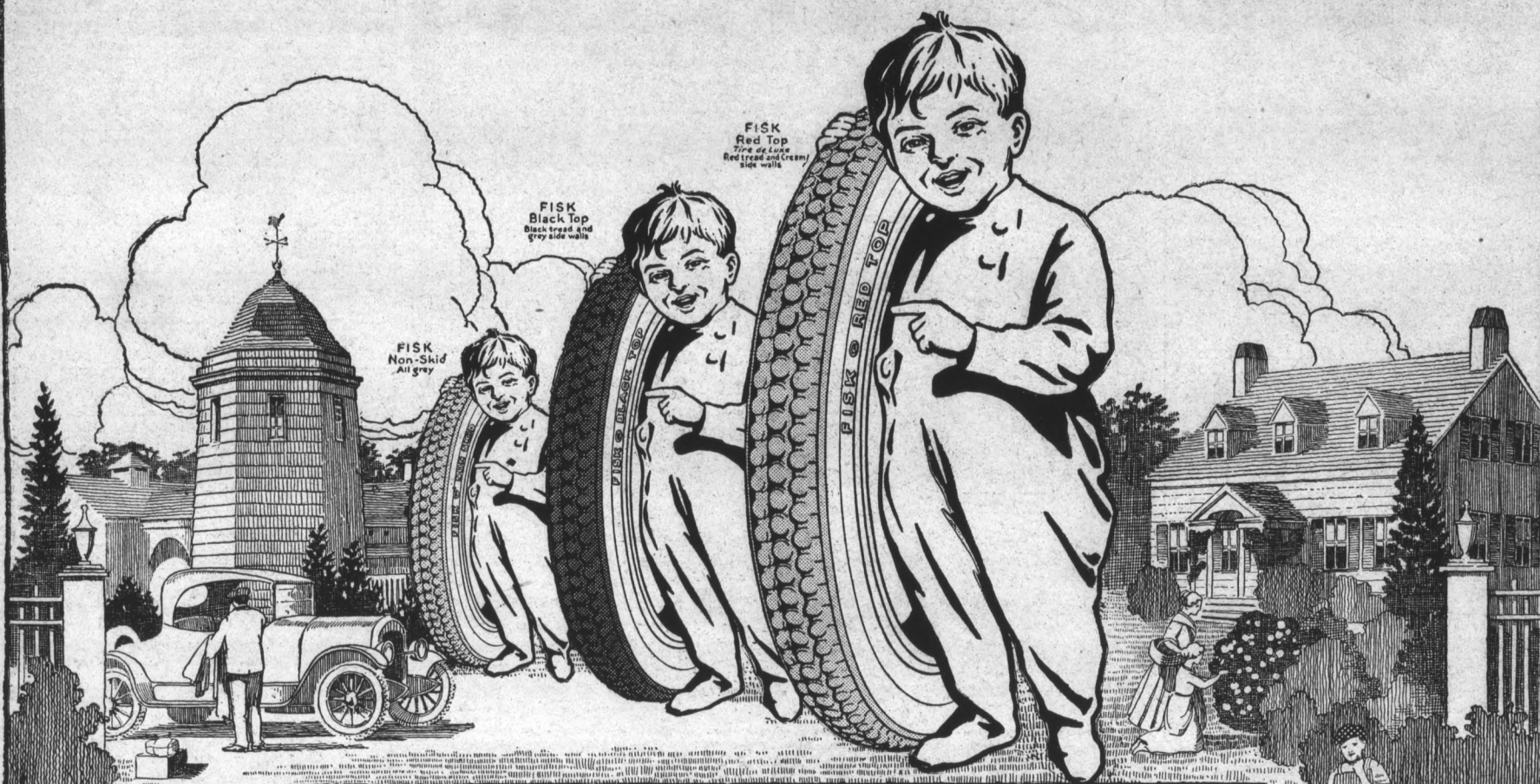
Shropshire Ewes

Mostly yearlings with lambs by side, extra good ones, come at once if you want them.

Kope Kon Farm, Kinderhook, Mich.

OXFORD DOWN SHEEP We have a few rams

for sale. M. F. Ganssley, Lennon, Mich.



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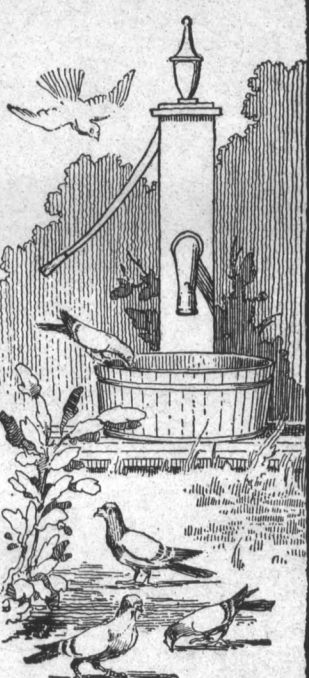
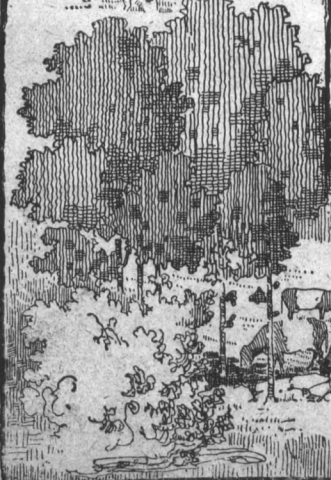
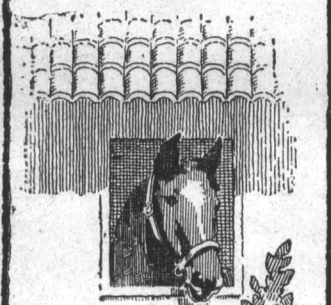
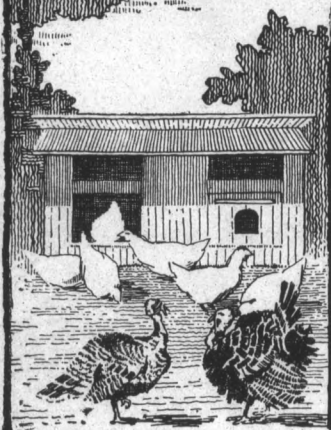
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