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Field Selection of Seed Ears

MICHIGAN farmers have passed through a seed corn crisis. Right now is the time to make plans for gathering and storing sufficient good ears for next spring's supply of seed. The very basis of success with next year's corn crop lies in the care and common sense with which the seed corn saved to produce this crop is gathered and cured this fall. To be sure, the importance of testing seed corn in the spring cannot be overestimated, but at best spring testing simply serves as a check or safeguard in determining the efficiency of the previous handling and curing which the corn has had.

Michigan farmers are producing field corn at the rate of thirty-three bushels per acre. In other words, less than one good sound ear is being produced on each hill of corn where three or four kernels were planted. Though several factors, aside from the matter of good seed, influence this low yield, the matter of gathering and curing the seed corn is of fundamental importance to the production of the maximum crop so much needed by the country, as well as by the producer, in this state.

The first step toward securing better seed ears for planting is that of selecting varieties that will mature during the normal growing season. To intensify early maturing tendencies and enable one to examine the character of the growing stock as well as the ear that is attached to it, it is preferable to select seed ears from the field about the middle of September. This gives seed corn that will make good silage and mature sound grain during a normal growing season. Only careful seed selection will enable Michigan farmers to gradually intensify the early maturing tendencies of their corn until it is possible to mature a maximum quantity of dent corn.

In selecting seed from the field one should not persist in selecting ears simply because they are big. The profitable limit to the size of the ears is as large as will mature on one's farm. In selecting ears that have reached a fair maturity before it is time to harvest the main crop they may have a deep grain, but never as large a cob as the seemingly large ears that mature later, or as those that are not mature after heavy frosts. The bigness, or circumference of the cob, should correspond with the length of the growing season. This point is important because it enables the grower to keep the size of the ear adapted to his soil and climate. After one has selected his variety and finds that it suits his soil, latitude and requirements, then he should aim to grow as big ears and no larger than will make a maximum crop of sound corn.

Only the inexperienced or the unobserving grower persists in selecting ears simply because they are big. Yet the charm of bigness is over many

*Methods of Gathering, Curing and Storing Seed Corn
Calculated to Develop Strains of High-Yielding
Varieties in Michigan.*

[By] LESTER J MEREDITH

breeders of corn as well as farm animals. The fact that this idea of bigness of ear associates with the idea of bigness of crop is so universal that corn growers must devote special attention to studying the problem before they can succeed in developing strains of high-yielding corn adapted to their soil and climatic conditions. With the big paying crop ever before our minds, we may easily sacrifice bigness of ears for soundness, quality and maturity. The successful corn grower who takes particular pride in developing a uniform strain of seed corn adapted to

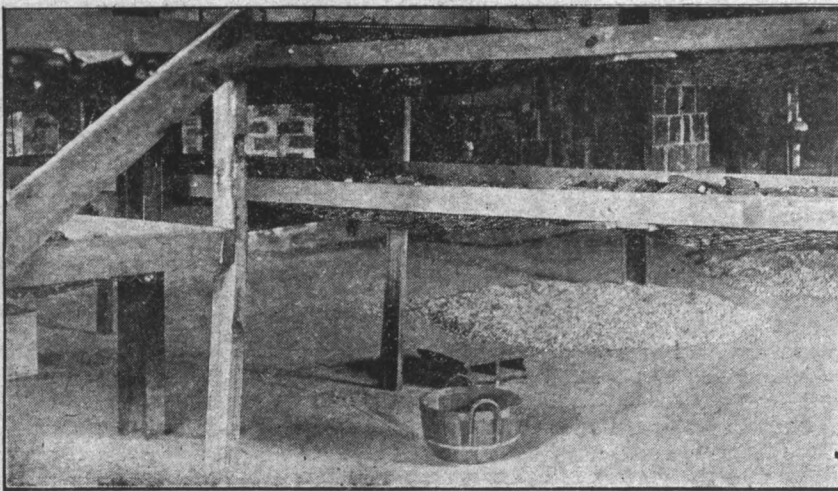
his farm finds it pays to strap a bag or basket over his shoulder and go through the field before the corn is cut and walk up and down the rows selecting the best seed ears from the standing stalks. In case he has no special seed plats, he may find it possible to make fairly good selections from the best portions of the field crops. At any rate he must have in mind the type and qualities of a good ear and stalk. He must appreciate the value of stout, vigorous, leafy stalks, that produce ears at a convenient height for harvesting and husking and with shanks just long enough to allow the ear to droop nicely. As a rule stalks of this type will bear good ears.

Attention must be devoted to the type of the ears selected for seed, although under present conditions many Michigan growers cannot afford to sacrifice too many good sound ears in their efforts to secure uniformity in next year's crop. It is always better to have a surplus of seed stored away in the fall and to make final selections of seed ears before planting in the spring. It is also important that fairly mature ears be selected, as the immature ones are apt to cause mold, and at best are very difficult to cure. Such immature seed, even though it may possess high germinating qualities, has a tendency to produce weak-growing plants, unless weather and soil conditions are especially favorable. This serves to emphasize the importance of growing a variety of corn that will mature well and which, by careful seed selection, may prove adaptable to climatic conditions.

No amount of attention to scientific field selection will solve the problem of seed corn selection unless adequate plans are made to get the seed ears into storage promptly. More than one harvest of seed corn has been ruined by heating and molding because it has been dumped in heaps and allowed to heat and mold before being put into storage. Seed corn should always be hung up or put in racks for curing on the same day or as soon as possible after it is gathered.

The method which will bring about the quickest drying of the ears is the most efficient. In general, any practical method of storage that will keep the ears separate so as to prevent actual contact of one ear with another and allow free circulation of the air round each ear will give the best results. One of the best and cheapest methods is that of having woven wire cut up into strands. The ears are easily attached to these strands and dry rapidly. Another good scheme is that of driving finishing nails into a cedar post far enough apart to hold each ear separately. Several manufacturers have put on the market devices for keeping the ears separate.

A two-decked rack, made of two-by- (Continued on page 233).



Seed Corn Racks in Use at Mt. Pleasant Normal School.



The Seed Should be Selected Before the Corn is Put in the Crib. It is Easy, More Satisfactory, and Much More Profitable than Selecting from Crib in the Spring.

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CURRENT COMMENT.

A "Dry" Nation in Prospect. History is rapidly being made in the solution of the liquor problem in the United States as well as in Michigan. The trend of recent events in this regard cannot but be a source of satisfaction to the farm folks of Michigan who, as a class, have stood solidly for the suppression of the liquor evil, and the elimination of the saloon.

Since the enactment of our present prohibition law, in conformity with the constitutional amendment adopted by the voters two years ago, the saloon element of the state has been actively working for the restoration of the saloon through the legalizing of the manufacture and sale of beer and light wines in this state. As a result of these efforts petitions were signed for the submission of a constitutional amendment with that purpose in view at the coming general election. But through an apparent desire to popularize the amendment, its advocates attempted to provide for the reinstatement of the Warner-Crampton law by referring to its title and public act number alone, instead of giving its text in the proposed amendment. The submission of the amendment was contested on that ground by the Michigan Anti-Saloon League, and last week the Supreme Court barred the proposed amendment from the ballots at the coming election on the ground that it was not in conformity with the provisions of the constitution governing the submission of amendments in this regard. The decision effectually disposes of the question of the early reinstatement of the saloon in this state.

On Saturday last, the United States Senate adopted an amendment to the pending annual agricultural appropriation bill, providing for national prohibition from July 1, next, until the American armies are demobilized at the end of the war, by a vote of forty-five to six. This is a clear indication of the trend of sentiment in congress regarding prohibition as a war measure.

Following closely on this action

came the announcement by the Food Administration, that, by the authority previously granted to the President, the manufacture of beer would be prohibited after December 1 next, as a war measure. This action is taken for the conservation of both coal and grain as well as transportation and labor for war work.

In addition a prohibition amendment to the federal constitution has been submitted to the various states for ratification and has already received the legislative approval of several states, some of which are not prohibition states.

In consideration of these overlapping developments the prophesy contained in the title of this comment seems warranted.

Grain Crop Yields.

The statistics compiled from threshermen's reports as published in connection with the Michigan crop report in another column of this issue, show very satisfactory grain yields under the unfavorable seasonal conditions which have prevailed. Notwithstanding the fact that winter wheat was badly winter-killed, the early threshing reports covering more than three and a half million bushels show an average yield closely approaching fifteen bushels per acre, while the small area of spring wheat threshed at that time showed an average yield of nearly twenty bushels per acre. A large acreage of oats showing an actual average yield of 41.4 bushels per acre and a heavy acreage of barley giving a yield of 30.5 bushels per acre insures a much greater supply of these grains than is the case in a normal season, owing to the relatively large acreage sown last spring.

The comparatively good showing made in the spring wheat crop as indicated by these official returns forecasts an increased interest in this crop among Michigan farmers. It should be remembered, however, that our recent experience in the production of spring wheat in this state is comparatively limited, and that the early spring conditions were favorable to getting the crop in at a much earlier date than would be possible in most seasons. It is entirely likely that this was a material factor in the good average yields being secured as indicated by this report.

On the other hand, the season was a particularly unfavorable one for winter wheat, so that the comparative yields shown in this report cannot

properly be taken as a criterion of the relative value of these two crops for Michigan farms, in fact, spring wheat has never been able to successfully compete with winter wheat in this state on any considerable scale, and it is wholly probable that for a staple crop winter wheat will prove more satisfactory, one year with another.

On this account, as well as because of the fact that any task which can be accomplished this fall should not be postponed until next spring under the difficult labor conditions with which farmers are confronted, there should be no general failure to sow winter wheat with the idea of sowing spring wheat in its stead. The recent general rains have greatly facilitated the sowing of winter wheat, and under present conditions, no time should be lost in getting a good acreage of this crop planted on Michigan farms where wheat has been successfully used in the crop rotation in other years.

Our Merchant Marine and the Farmer.

Mr. Edward N. Hurley, chairman of the United States Shipping Board, in a recent address, said that the building of the necessary ships to win the war would give the United States after the war the greatest merchant marine that the world ever saw; there would be ships enough to ply between not only this country and Europe but all of the South American countries and to Australia.

The question is, how will this great merchant marine affect the farmer? If we trade with Australia what will our ships carry to Australia? Manufactured articles, to be sure. We are now the greatest manufacturing country on the globe and we will be greater than ever. These ships won't carry products which the farmer raises because Australia has those products already, but they will carry manufactured articles. These ships will not come back from Australia empty by any means, and what will they bring back? Wheat and wool.

If we trade with South America we will carry the same kind of articles to Argentina that we do to Australia—manufactured products which those people want. Instead of bringing back wheat and wool we will bring back corn and beef. And so it will be with every great agricultural nation in the world. We will take our manufactured products and we will have to bring back food products because that is

what those countries will have to sell. And we repeat the question: How will this affect the farmer?

The manufacturing industries of this country have been built at the expense of the farmer. The manufacturers have got rich and the farmers have got poor. The fertility of our soils has been reduced to produce food products in competition with other naturally rich countries while our manufacturers have been sending their products to these countries at good profits.

Unless the farmer is awake to the real situation we will have to repeat this process and our manufacturing industries will be further extended at the expense of agriculture. If there ever is a time when a great economic agricultural organization will be of benefit it will be in this readjustment after the war. Then will be the time when our state and national chamber of agriculture will be of great value to the farmers of this country. We ought to do everything possible to build the foundation now, not only build the foundation but perfect the organization and have it in such condition that when the time comes agriculture can stand out upon its merits and demand a square deal with the manufacturing industries of this country.

Great as has been "Over the Top." the cost of the war since our enforced entry into the world struggle, the cost for the coming year will unavoidably be much greater. The cost of training and equipping five million soldiers, transporting the major portion of them overseas and maintaining their supply of food and munitions is stupendous. Yet no loyal American will question the wisdom of putting our every resource into the effort of winning the war and winning it quickly.

Congress is now putting the finishing touches on the bill which will provide for the greatest tax levy in the history of the nation—a levy which will to some extent fall on all the people of the country, but most heavily on persons and industries which are best able to bear the burden. But this enormous tax levy will provide for but a fraction of our war finances for the coming year. The balance of the great fund must be raised by the sale of government bonds, and war savings stamps. And to raise the needed money all the people must invest in these securities to the limit of their ability to carry them.

An analysis of the three Liberty loans which have already been floated shows that Michigan has over-subscribed her quota in each case. These statistics show that 442 persons to each 1000 of the state's population in 1910 have been Liberty loan subscribers, the average subscription having been \$242 and the per capita subscription \$107.10. Notwithstanding this comparatively small average in the amounts subscribed, Michigan over-subscribed her quota by nearly thirty-three per cent.

These figures illustrate the importance of small subscriptions in making up the aggregate of a big loan. They are presented at this time so that the patriotic reader who is unable to make a big subscription to the coming Liberty loan may realize that the success of the loan depends upon the aggregate of small subscriptions, rather than upon the large purchases of the few who are in a position to subscribe heavily.

And in this connection it may be well said that the purchasers of small bonds are as a class more patriotic in their subscriptions than are the more fortunate subscribers who have more funds to invest, because the small subscription more often involves personal sacrifice. But let us think of the greater sacrifice which our boys are called upon to make at the front, and prepare to put rural Michigan "Over the Top" in the fourth Liberty loan as promptly as in the other three.

Methods for the Control of Smut

Secure clean grain of good variety.

Fan thoroughly to remove all the light, shrivelled grains and smut balls.

Treat by one of the following methods, and plant at once.

Do not treat more than you can plant in any one day.

Dilute Formaldehyde Method

Sprinkle the grain until thoroughly wet with a solution of one pint of formaldehyde to forty gallons of water.

Cover with blankets or sacks for two hours.

Spread out thinly to dry and sow within twelve hours.

Allow for the swollen condition of the grain.

Concentrated Formaldehyde Method

The convenience of this method is its chief advantage. Only those who will follow directions carefully should employ it since considerable loss resulted during the past season through improper handling.

Apply formaldehyde, full strength, with hand-sprayer while the grain is being shoveled over and over. Use at the rate of one pint to fifty bushels, half pint to twenty-five bushels, one-fifth pint to ten bushels, etc. A dose is a dose—this is as strong as formaldehyde can be safely used on wheat.

Cover the grain for four hours—absolutely no longer. Then spread to air in a warm, dry place for an hour or two. It is unsafe to leave grain covered or sacked over night. Formaldehyde cannot be thoroughly aired out of the grain. Therefore plant at once. Treat no more grain than can be sown the same day.

CAUTIONS -- Treat Carefully, No Stronger than is Recommended. Cover No Longer than is Indicated. Plant at Once.

G. H. COONS,

Associate Professor of Botany, M. A. C.

Fitting Up the Cattle Barn



THE farmer who is breeding registered dairy cattle assumes a leadership that brings responsibilities. His farm and buildings soon become a place of interest. When his cows begin to make good milk and butter-fat records, and his methods of breeding and feeding discussed he gains fame as a successful breeder. Others want to see and learn, and then do likewise. If visitors are welcome at his farm they are sure to look with critical eyes. They expect to see everything done in a practical way and the equipment commensurate with the needs of the business. If he has invested too much in equipment and artistic settings his example loses its force. The breeder of registered dairy cattle should, therefore, understand that even though efficiency is a big word, sufficiency is a bigger one, and thus avoid investments in equipment that will not bear close inspection and prove practical for the breeder of moderate means.

First, attention should be directed toward providing for the health of the cattle. As good health depends upon heat and fresh air plans should be made to install a system of ventilation to provide an even temperature and frequent change of air for the cattle. The dairy cow lives in accordance with the laws of chemistry. She is a chemist and manufactures meat, bone, milk and fertilizer. When she was free to move her laboratory from place to place, taxing it only to sustain herself and furnish life and sustenance for the reproduction of her kind, then the laws which governed her met with but few obstacles in their accomplishments of natural results. Since being domesticated by man and placed in warm barns she is working under highly artificial conditions. Her capabilities are taxed to the utmost. When she had her liberty she could follow her instincts in selecting the materials to warm and light her laboratory. This shows how necessary it is for those who substitute a treatment of their own to have an understanding of what she needs to remain healthy and produce abundantly.

Heat is an agency employed by the chemist and a furnace may be found in every first-class laboratory. Were it not for the oxygen in the air, heat could not be generated. Oxygen entering through the draft supports the decomposition of the carbon and the hydrogen in the coal and combines with the separated elements and passes out through the flue. We find in the cow a similar furnace to that in a laboratory. It supports a life-long flame, for when the breath can no longer be detected something which we call life is gone. The lungs are the furnaces in the animal structure. By them the air is drawn from the outside and placed in

It is Time We Abandoned Huts andhovels for Cattle Homes. Every Well-Bred Animal is Entitled to an Environment that Makes For the Symmetrical Unfolding of Heredity.

contact with the blood derived from the food. The blood seizes the oxygen, combustion takes place, and while the burning is still in process it is driven to every part of the body to warm and enliven it. When the blood takes the oxygen from the air it fills its place with its own surplus carbon, and the new compound, no longer life-giving, is expelled from the lungs as the poisonous gases and smoke are drawn away through the chimney.

Such is the process of respiration which the cow shares with other animals. It is a chemical interchange of component parts and the heat that results from the recombination is not the only benefit derived from the operation. When the blood changes its proportion of elements by the assumption

degrees Fahrenheit. If the water is changed or becomes too cold the cows will drink more some days than they will others and not sufficient quantity to sustain an even flow of milk. The drinking of impure water not only has a deleterious effect upon the milk, but it leads to parasitic infestation which lowers the vitality of the cow and lessens her milk flow. Many experienced breeders and feeders of dairy cattle figure that the increased yield of milk from their herds has paid for their systems of watering the first winter they have used them. In these days of high-priced dairy feed stuffs it is a mistake for one to neglect to supply the cattle with an abundant supply of pure water.

Feed and litter carriers save a vast

driven through the barn, leaving a trail of soft manure and urine the whole length of the stable.

Every breeder of dairy cattle, who values the health of his calves, should have a cream separator. It is a decided advantage to have skim-milk warm and fresh from the separator; besides it tends to remove the danger of the calves becoming diseased and unhealthy by feeding skim-milk from the public creamery vats, where it becomes mixed with milk from other farms. Experiments show that calves and pigs make more satisfactory gains and keep in better health when the milk is separated at the farm and fed to them while warm and fresh.

On many large breeding farms the milking machine is being used successfully in milking cows that are being tested for semi-official yearly records. Whether or not it will pay the average breeder of dairy cattle to install milking machines depends on his ability to operate the machine and the attention he gives to stripping the cows after the machines. The last

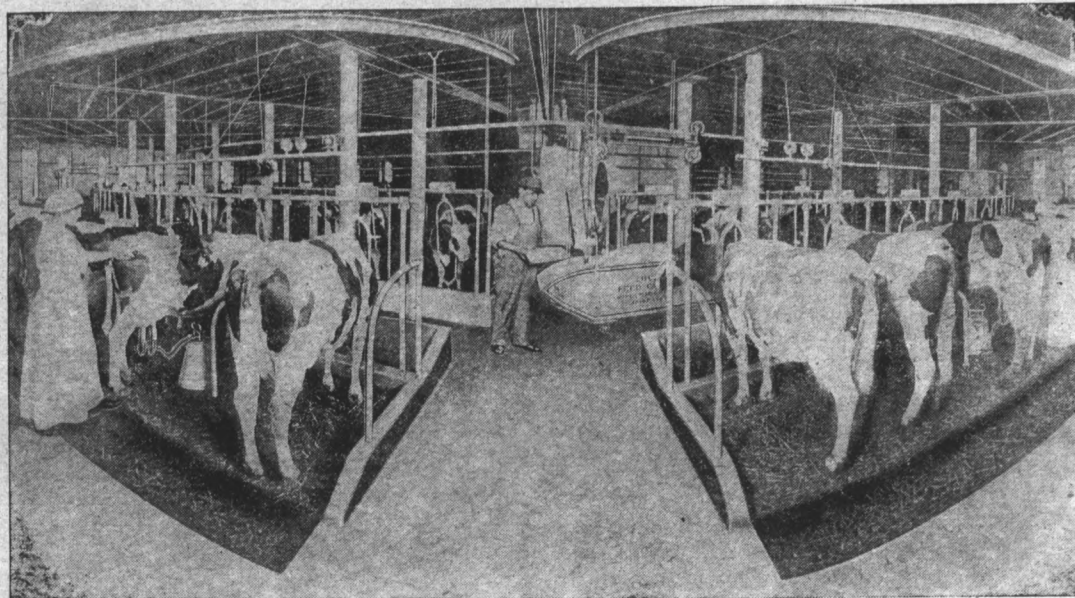
small amount of milk in the cow's udder is the richest milk she gives, and it should be saved. Then, too, no breeder of dairy cattle can afford to use the milking machine on his cows unless he keeps close watch of their udders the same as he would if they were being milked by hand. The milking machine increases the efficiency of the working force and if one looks after the cows and gives their udders the same careful attention as he would if milking them by hand there is no danger of machine-milking injuring the cows.

Many cows that have been failures by hand-milking have made good records when a machine was used. The milking machine, if properly handled, will make clean milk,

and one does not have to travel far to find many breeders who are making certified and inspected milk with the mechanical milkers. The pails being practically air-tight, admit no dust and dirt, consequently the bacteria and sediment tests are very favorable. On many farms it would be impossible to conduct the breeding business successfully if the milking machines were not in use. It is a great relief to many breeders who have had more or less trouble in hiring and keeping unreliable and incompetent help.

Every breeding farm should have a sanitary milk room, where milk and cream can be kept clean and cool. The inside walls should be plastered and the floor made of concrete or tile. Ample room for the cream separator, for washing and cleaning the pails, cans and other utensils used in milking and handling the products. Space for weighing, testing and keeping individual records should also be given con-

(Continued on page 8).



Home Building for Dairy Cattle is Becoming a Fine Art

of more oxygen new substances are formed and carried to the parts of the body which most require them. Thus we see how essential an abundant supply of oxygen is to the dairy cow to enable her to do efficient manufacturing work. Abundant oxygen is nothing more or less than lots of fresh air. Intelligent caretakers are continually urging the importance of perfect ventilation. Actual experience has demonstrated its value. A study of the chemical uses of fresh air in animal economy strengthens the assertions of everyday experience by demonstrating it has become a necessity.

Pure water is just as essential to the economic production of pure milk as feed. The dairy cow requires water in large quantities and at regular intervals. Unless one has automatic watering devices in each cow's stall there should be a watering place to which they are accustomed and the same kind of water; the water should not be allowed to become colder than seventy

amount of disagreeable and hard labor in feeding the herd and cleaning out the barns. Every farmer, every boy, every hired man, hates the old-time wheelbarrow or the task of hitching up a team to a wagon or manure spreader and loading the fresh manure in the stable. It is no fun steering an old wheelbarrow up a narrow plank onto a manure heap or throwing fresh manure from the gutters into a wagon or spreader and having the urine dripping through the boards onto the stable floors. And what a job it is cleaning up the yards and getting it on the land. This kind of work is not necessary if one has feed and litter carriers to convey the feed to the cows and the manure from the barn to the manure pit or load it onto the spreader. And the most attractive feature of feeding the cattle and cleaning the barns with feed and litter carriers is the fact that it costs less—in dollars and cents—than the old way of cleaning with a wheelbarrow, or with a manure wagon

Save Time & Labor

Drudgery was taken out of farm work and profits put in when the farmer began to use modern labor-and-time-saving machinery.

The binder, hay loader, and tractor, etc.—each has done its part in its season.

But the pumping of water has no season—it goes on and on, in planting season and harvest time, winter and summer, day after day. Here is your big chance to save time and labor.

Install the Leader Water System

It can be operated by an electric motor, a gasoline engine, or from a line shaft.

A few minutes pumping fills the pressure tank and gives a constant supply of water at the turn of a faucet.

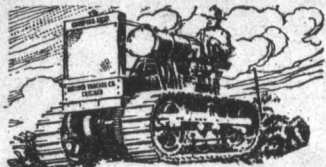
With an electric motor, the system is entirely automatic—with a gas engine, partly automatic in operation.

There are many sizes and types of outfits, moderately priced.

Write today for details and prices.



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Corporation
Kerr Building
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PORT HURON STORAGE & BEAN CO.,
PORT HURON, MICH.

News of the Agricultural World

SELL EGGS BY THE POUND.

FOR several years the plan of selling eggs by the pound instead of by the dozen has been agitated among the Canadian grocers, and in some towns the system has already been put in practice. A trade journal which called upon a large number of dealers for an expression of opinion of this point states that the weight of opinion was in favor of the movement. The only obstacle in the way of a unanimous indorsement of the plan is that the "public has not been educated to buy in this way." As refuting this objection, it is pointed out that in view of the wide variation in the size of eggs the consumer would quickly realize that the system offers a fair and just basis of charge.

TAXI'S FOR HOGS.

THE war work weekly bulletin for August 1, of the United States Department of Agriculture, calls attention to an increasing use of motor trucks on farms to relieve railroad transportation. A forcible illustration is shown in the receipts of hogs delivered to the Omaha market by this modern method of conveyance. According to a report recently compiled by the United States Bureau of Markets there was an increase of 180 per cent in the number of hogs transported to that market by motor trucks during the first six months in 1918 as compared to the corresponding period in 1917. The number carried in this way amounted to 92,780 for the period in 1918 as compared to 33,084 for the corresponding months last year. Estimating seventy hogs as an average carload in railroad shipments, the number delivered by motor trucks on the Omaha market during the first six months of 1918 aggregated more than 1,300 carloads, or an average of more than eight carloads for every market day during the period. The motor-truck business is becoming so important

that commercial organizations of Omaha are taking active measures to utilize the trucks on return trips to country points for hauling various kinds of freight. Experience has shown that motor truck marketing is as feasible in winter as in other seasons, as more than 26,000 hogs were delivered directly from farms to the Omaha market during January and February.

UPBUILD POULTRY INDUSTRY.

TALK of placing an embargo against the sale of poultry in Texas in order to up-build the industry, depleted by drought, is causing farmers to sell off their flocks. At the same time the movement is being encouraged by dealers in West Texas who realize the farmers' predicament. In the drought-stricken sections of the state farmers are being forced to sell off their poultry so that they can leave home to seek work elsewhere. Even if this money were not needed they are unable to buy feed at prevailing prices. It is estimated that more than seventy-five per cent of the poultry in Runnels county has already found its way to market. Before the drought the county was one of the largest in poultry production in Texas, and Ballinger was a concentration point for carlots. Probably Runnels county had advanced beyond any other in the state in the matter of infertile egg production. The same story prevails in adjoining counties—no rains for months—no grain crops whatever—and the farmers are boarding up their doors and windows and leaving the country in numbers.

MORE MONEY FROM HIDES.

THE present very urgent demand for leather as a war necessity and the increase in price which unscored hides bring on the market emphasizes the importance and even the necessity of exercising the utmost care in removing skins from farm animals. By devoting a little extra time necessary in

skinning animals carefully—possibly only three to five minutes in taking off the skin of a calf, or fifteen minutes in the case of a beef hide—the value of the hide may be increased several times, say specialists of the United States Department of Agriculture. The tanner pays more for packers' hides than for those obtained from farmers or country slaughterers. This is due in part to better facilities in the large packing houses for curing and storage of hides, but principally to the fact that such hides have been taken off properly. Country hides removed by unskilled workmen are often cut and scored. When such ideas come from a tannery, scores show very plainly, and in many cases one-half of the thickness of the leather is lost by such defects. Imperfections can be avoided by the careful use of the skinning knife, by keeping the hides clean and free from blood and by proper storage.

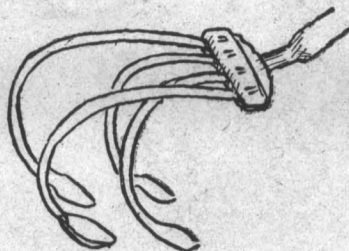
A RIVER RIDE.

MISSISSIPPI river boats hauled more live stock to the Independent Stock Yards at St. Louis during the first half of this year than they did in a corresponding period last year, thus relieving materially rail transportation, according to a report of the Bureau of Markets of the United States Department of Agriculture. More than one-third of the receipts of cattle and hogs at the Independent Yards in the last four months came by the river route and now practically all the Mississippi river boats using St. Louis as a terminal carry some live stock. While boat rates are a trifle higher than rail rates the stock reaches the market in better condition and shows less shrinkage. The loss in dead and crippled animals is small as compared with the loss in shipments made by rail. Usually less than carloads are shipped by individual owners and a system of tagging permits the stock of more than one man to be confined in the same pen.

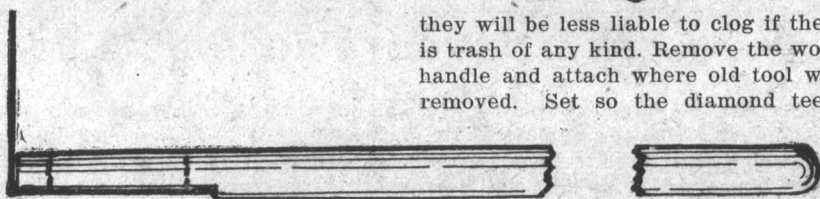
Suggestions for Busy Farmers

GET THIS FOR NEXT YEAR.

THE device here shown for uncovering corn is not now in season, but can be easily remembered by anyone who cultivates corn with a riding cultivator. It consists essentially of a straight stick—a piece of a hoe handle or broom handle will do—with a hook at one end. The hook may be



they will be less liable to clog if there is trash of any kind. Remove the wood handle and attach where old tool was removed. Set so the diamond teeth

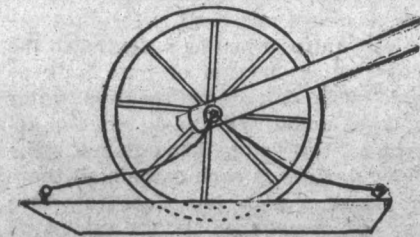


made of an old file, say eight inches long, and bent at right angles in the middle, with holes drilled through one leg of it to admit of screws or nails to fasten it to one end of the handle, a portion of which is cut away, to form a flat surface, as shown. It would be well, I think, for any corn raiser to make one or more of these hooks and have it ready for next season's use. A neighbor of mine had one of these made by a blacksmith, and found it much better than a straight stick for the purpose intended.—L. B. Avery.

FOR THE HAND CULTIVATOR.

THROW away the old style tools for your hand cultivator and substitute the head of a cultivator hoe, shown herewith. Remove front tooth,

ner for use when there is snow on the ground. When I first tried it I was

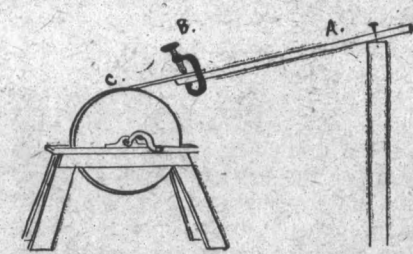


surprised to find that it ran easier than the wheel alone did over bare ground.

To make the runner, cut a piece of hardwood lumber, about two and one-half feet long, as illustrated A. Then chisel a mortise, the same width as the wheel and of the depth shown by the lower dotted line, in the top of the runner. Drive in a staple at (B) and pass a rope or wire through the staple and around the rim of wheel and you have a winter wheelbarrow.—V. Sylvanus.

FOR TRUE BEVEL-EDGE GRINDING.

HERE is a carpenter's device for ordinary grindstone, for putting a true bevel edge on plane bits, chisels, etc. Take a square stick (A) about



three feet long and about an inch thick, put a sharp nail in one end and with a small hand-screw (B) clamp a plane-bit (C) at the other end. Stick the nail at end of stick into a post or the side of a building. Set the stone close enough to give the right bevel. Then, with one hand hold the tool and with the other turn the grindstone. The tool will be held steady so you can grind a true bevel.—S. Van Aken.

PICKING APPLES WITH VOLUNTEER HELP

THIS year's apple crop will be harvested in most sections with volunteer pickers, men and women, boys and girls who will be intelligent and interested, but very likely quite unfamiliar with fruit picking. The crews are now being recruited all over the country by State Councils of Defense, chambers of commerce, women's organizations and other people anxious to help with the apple crop.

Each grower should now get in touch with the chamber of commerce, or some other representative business organization in his nearest town, tell how many pickers he will need, when he will need them, for how long, and what arrangements he can make for housing or boarding them.

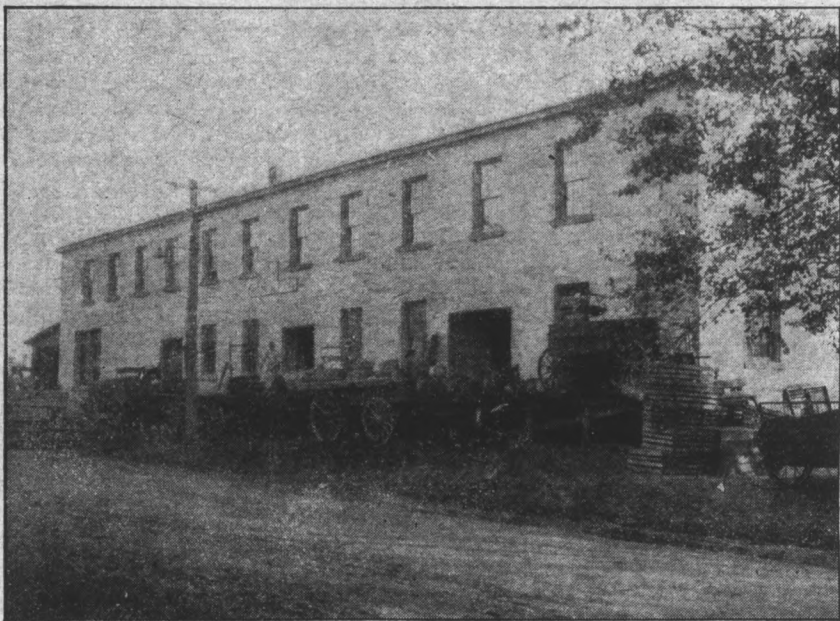
When his crew of volunteer pickers reports for duty he must open a little school for a day or two, and give them practical instruction in their new work. Many of them perhaps have never climbed into an apple tree, and even those who have may not understand that apple picking is a kind of work that requires as much delicacy as the gathering of eggs.

Let the grower tell his pickers how the skin of an apple, or any other kind

getting it into temporary storage first, and then packing it later.

More good apples are spoiled by carelessness between the time they are picked and the time they are packed than in any other way. Fall nights are cool, but fall days are apt to be warm. Apples are left in the orchard several days and alternately cool and heat with the changes in temperature until their quality deteriorates. The proper way to care for apples is to put them into common storage as soon as they come from the tree. Almost any good tight building will answer for the temporary storage needed between picking and packing.

When fruit leaves the tree it contains vegetable heat just as an animal has animal heat, and as the carcass of an animal will spoil after killing unless it is properly cooled, so fruit will spoil unless cooled. With a tight shed, into which fruit can be carried direct from the orchard, the grower can use the cool nights of autumn to take the heat out of his fruit. Doors and windows of the temporary storage shed should be opened at night to admit plentiful currents of cool air, and when the sun comes up and the outside air grows warm again this storage



Cooperative Shipping Associations are Becoming an Important Factor in the Preparation and Marketing of Our Fruit Crops.

of fruit or vegetable, is like the tin that protects canned goods. As the tin that encloses a can of tomatoes guards the sterilized contents from the air, and as even a slight pin hole in this tin would allow the air to enter and carry germs of decay, so the skin of an apple protects its flesh, which is perfectly sterile, and the least cut, even a dent made by a finger nail, allows germs to enter and start decay. A cut so tiny that it can only be detected under the microscope at picking time will, nevertheless start a germ invasion which will show up later when the apple is packed and put into the storage.

For this reason great care must be taken in picking fruit. The grower should show their pickers how to grasp an apple and give it the skillful twist that separates it from the tree. He must caution them against dropping the apples carelessly in the boxes and baskets, and see that they have picking baskets and field boxes which are free from splinters and nails.

This year's crop will have to be managed along somewhat different lines in many sections. With a crew of trained pickers and packers it is customary to grade and pack much of the fruit as fast as it comes from the trees. There will probably be a shortage of packers, and many growers will have to devote all their efforts to picking the crop and

place should be closed to exclude the warm outer air as much as possible, and keep the fruit nicely cooled. If apples are handled in this simple and sensible way they will have prime keeping quality and the work of grading and packing can be postponed for several weeks.

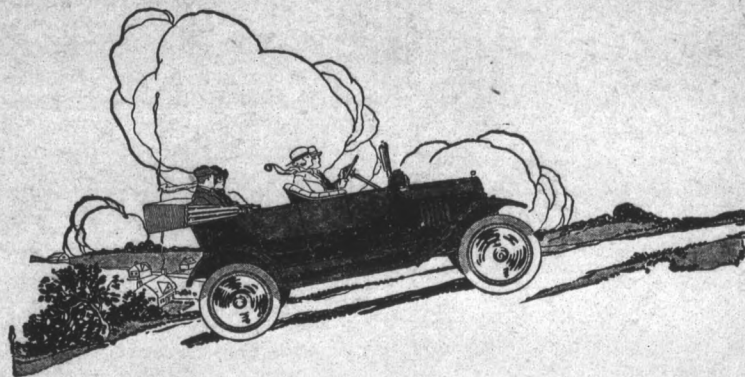
There is a fairly large apple crop throughout the country this year. It amounts to about two bushels for every man, woman and child in the United States. From the standpoint of the consumer it is important to have as much of this fruit as possible go to market in first-class condition, so that it may help us conserve wheat, meat, fats and other staple foods for our Allies. From the producers' standpoint it is just as important to harvest the crop in the best condition because the size of our apple crop this year is such that only the best fruit will bring good prices.

If the young orchard contains grass or weeds, you may be sure that the mice will cause great damage, unless the trunks of the trees are well protected.

No use to plant bush-fruit in poor ground. It should be plowed deeply, thoroughly worked up with good stable manure before the bushes are set out.

If your orchard is exposed to high winds, plant a windbreak of evergreens, but wait until spring to do it.

FORD EFFICIENCY



Four heat conditions scientifically met by Gargoyle Mobiloil "E" in Ford engines

If you have driven your Ford very long, you have no doubt met with a problem, more or less common to all cars.

That is—a tendency of the engine to overheat. This is generally most noticeable after continued running on low gear.

True, your thermo-syphon cooling system absorbs much of the excess heat of the combustion chambers.

But your water cooling system should not be called upon to absorb and radiate the heat of friction. Most of that task belongs to the lubricating oil.

But of even greater importance is the ability of the lubricating oil to perform its function of minimizing friction and thus reducing friction heat.

Four common forms of overheating are described below. Each one traces back directly to your oil supply.

(1) **Friction Heat on Cylinder Walls.** This is caused by oil too light or too heavy in body for the Ford engine. If too light, it fails to thoroughly separate friction surfaces. If too heavy, it is not distributed properly, leaving cylinder walls and bearings partly exposed. In either case excess friction follows. Heat mounts up.

The body and character of Gargoyle Mobiloil "E" are such that it will feed readily, distribute thoroughly and form a protecting film between cylinder walls, pistons and piston rings.

(2) **Excessive Crank-Case Heat.** Normal crank-case heat is about 140° F. But if the oil does not tightly seal the Ford piston rings, part of the heat of each explosion shoots down past the piston to further heat the oil in the crank-case. Crank-case heat may then rise 40° to 50° higher.

Gargoyle Mobiloil "E" will thoroughly seal the Ford piston rings.

The heat of the explosion on the power stroke is kept above the piston, where it belongs.

(3) **Hot Bearings.** Bearing surfaces, when seen through the microscope, show tiny hills and valleys of metal. The oil must thoroughly fill in these valleys and cushion the peaks or excess friction will result. If not, hot or burned-out bearings follow.

Gargoyle Mobiloil "E" is of the correct body to lubricate the Ford bearing surfaces, thus preventing them from rubbing against each other.

(4) **Heat Absorption and Radiation.** On warm days you will sometimes see Fords running under overheated conditions due to the use of an oil of low quality or poor heat radiating ability.

Ford owners who use Gargoyle Mobiloil "E" are free from this trouble, owing to the ability of the oil to minimize friction and to absorb and radiate heat.

The following test will show you the importance of scientific lubrication in the efficient operation of your Ford engine:

An Economical Demonstration

It will cost you little to fill your reservoir with Gargoyle Mobiloil "E." The garage or dealer you trade with has it, or can promptly secure it for you.

Ask him to empty your reservoir of its present oil and fill it with

Gargoyle Mobiloil "E." You can then judge for yourself the results in cooler operation, gasoline economy and reduced oil consumption, to say nothing of reduced carbon deposit and greater power.



Mobil oils

A grade for each type of motor

In buying Gargoyle Mobiloil "E" from your dealer, it is safest to purchase in original packages. Look for the red Gargoyle on the container. If the dealer has a Gargoyle Mobiloil "E," he can easily secure it for you.

YOUR TRACTOR

also may be lubricated efficiently with Gargoyle Mobil oils. On request we will mail you a separate Chart specifying the correct grade for each make and model of tractor.

VACUUM OIL COMPANY, New York, N.Y., U.S.A.

Specialists in the manufacture of high-grade lubricants for every class of machinery. Obtainable everywhere in the world.

Domestic Branches:

Detroit
Boston
New York

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Kansas City, Kan.
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Pittsburgh

Chicago
Des Moines



Make Your Home Ideal

ADD to the convenience of running water the beauty and luxury of

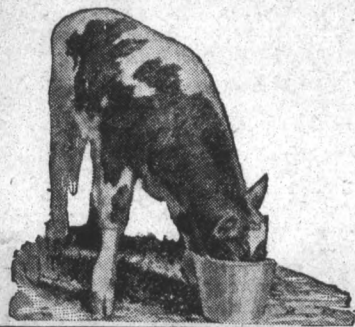
"Standard" Plumbing Fixtures

And you have an ideal home—one which has conveniences equal to those in the most modern of city dwellings.

These plumbing comforts belong in every home, whether new or remodeled. They are the perfected product of and are backed by the reputation gained through years of experience in manufacture. Their range in design and price will meet your requirements and purse.

Confer with your contracting plumber. Ask about "Standard" Fixtures—which you should demand in order to be certain of maximum service and satisfaction. See that the "Standard" Green and Gold label is on the fixtures you buy. It is your protection. Send for a copy of the book "Standard" Plumbing Fixtures for the Home."

Standard Sanitary Mfg. Co.
Dept. 212 Pittsburgh, Pa.



Four Weeks Old Tasted Milk Twice

Grew to be a "WONDER" on

Blatchford's

Sell your milk. Raise big, healthy calves on Blatchford's Calf Meal at 1-4 cost of milk. Make 2 profits instead of 1. Send for Pamphlet "How to Raise the Largest Calves at the Smallest Cost." Blatchford Calf Meal Co.—Dept 4816—Waukegan, Ill.

DOUBLE TREAD DOUBLE SERVICE

An R. K. Tire is a guaranteed tire. And it's guaranteed because it's specially made with double tread and double chain stitched. A sure 100 percent service in every tire—plus a saving that gives you two tires at the price of one.

The following are the little prices of our guaranteed tires.

Size	Price	Size	Price
30x3	\$ 7.00	36x4	12.50
30x3 1-2	8.50	34x4 1-2	13.50
32x3 1-2	9.00	35x4 1-2	14.00
33x4	11.50	36x4 1-2	14.50
34x4	12.00	37x4 1-2	15.00

Add \$1.00 to the above for Non-Skid Tire
2 percent off for cash with order.
10 percent deposit required with all C.O.D. orders

R. K. Tire Company

837 No. Broad St. Philadelphia, Pa.

Send for descriptive booklet and price list.

Rosen Rye heavy yielding cleaned seed, can make bags to me to fill. Chester Whites with pedigree. FRANK BARTLETT, Dryden, Mich.

Mention The Michigan Farmer When Writing Advertisers

Flashes from the State Fair

STRUGGLING against obstacles interposed by scarcity of grain feeds, drouth and blighting heat, the live stock exhibits measured up in considerable degree to the visions of visitors at the Michigan State Fair.

War interfered to a serious extent with the exhibition of draft horses, and also cut down the entries of light horses and ponies. Many breeders found it impossible to fit, train and show their horses. Many of those shown were brought under the handicap of labor shortage at home and at the fair.

While the average merit of the classes was reduced because of the small numbers to pick from, yet a few outstanding animals headed some of the classes. The display was sufficient to prove that Michigan breeders possess some excellent material and that those in need of the highest class of stallions and mares can fill their requirements in Michigan. All of the breeders present expressed confidence in the future of the business, with a broadening market and strong prices for the next few years. Evidence from all parts of the state told of decreased horse-breeding by farmers. This is sure to result in a scarcity of desirable draft horses a few years hence. The number of this year's foals seems to show a falling off.

The outstanding feature of the stock show was the exhibit of beef cattle. It was confined chiefly to Shorthorns, Angus and Herefords. Rarely has so meritorious an array of Shorthorns and Angus been shown at this fair. The Hereford herds were also of high class although but few Michigan herds were entered. Labor shortage and close selling of surplus breeding stock left some of the exhibitors without suitable animals to bring forward.

Among the dairy breeds the exhibits were few and many of the herds exhibited were in poor condition. Labor shortage, drouth and scarcity of feed stuffs have had a blighting effect upon the dairy business in Michigan. A few of the old breeders and some of the younger breeders presented animals that, with proper fitting would have made a credible showing, but through all the classes many of the animals exhibited were not in condition to do themselves justice.

The hog barn was only partly filled, many of the animals were for sale, but these were real show pigs and not trash brought along merely for sale. In general the quality was believed to be an improvement on last year. The Duroc Jerseys were represented by several well-known herds. Only a few Poland-Chinas were entered, but the quality of those entered was exceedingly good and the entries were in good condition. Chester Whites were in evidence, some of the best herds in the state being represented with high-class animals. Tamworths of exceptionally high quality were exhibited by Michigan breeders.

In the sheep barns the Shropshires led in numbers and furnished the most interest to spectators. Most of the entries were from Michigan and Ohio and some of the classes brought out close competition. Hampshires, Oxford, Southdowns, Merinos, Ramboulets and Delaines were represented by credible exhibits. A few of the breeders reported good sales during the fair.

Owing to the inability to secure copies of the premium awards in the different classes from the fair officials it is impossible to publish a complete list of the prize-winning animals in this week's paper.

The Horticultural Building at the State Fair looked unusually good this year. The abundance of good quality fruit and flowers, together with the decorations, made the building easily the most beautiful on the grounds.

The fruit was of unusually good quality and more highly colored than

usual. There was a noticeable shortage of peaches but this was made up by the exhibition of apples and pears.

As usual, the contest for the large prizes was between Oakland and Oceana counties. Because of having a larger exhibit and an especially attractive design, Oakland county won first prize by a narrow margin.

Oceana county excelled in the number of good varieties shown, which indicated well the adaptability of that county to growing a large variety of fruits. Mr. Billings had charge of the exhibit.

The Oakland county exhibit design was a Liberty Bell worked out with red apples and the crack with yellow apples. On each side of the bell design was a Red Cross worked out in apples. Mr. E. J. Ver Duyn was in charge of the exhibit and Mr. Harry Rickham was responsible for the design.

Other counties won premiums as fol-

lows: Kent third; Washtenaw fourth; Charlevoix fifth.

In the box and plate collection, Farley Bros., of Albion, and Billings, of Hart, were leaders in apples; George Chatfield, of South Haven, in pears; J. P. Munsen, of Grand Rapids, in grapes, and Billings, of Oceana county, in plums and peaches.

Eveline Orchards, of Charlevoix county, had an especially good exhibit of showing the effects of insects and the results of spraying.

Mr. H. H. Dow, of Midland, had some very fine specimens of Sweet Snow, Mother and Fairy apples, as well as an interesting collection of seedlings, mostly crosses between Wagener and McIntosh.

As a whole, the Horticultural Building showed that Michigan was more than holding its own as a horticultural state. Officers from the state fairs of neighboring states said the fruit show was the best they had ever seen.

Fitting Up the Cattle Barn

(Continued from page 227).

consideration in planning the milk room. By having a suitable room and conveniences for weighing and testing the milk and keeping milk and butter-fat records, the task will be greatly simplified and the milkers will look after the work more efficiently. It is also a good plan to keep on hand a supply of medicines and materials for treating and disinfecting sores and wounds and giving first-aid to sick cattle and young stock. An outfit for treating milk-fever is also necessary on the farm where valuable dairy cows are kept for breeding purposes. It costs but very little to keep these remedies and instruments at hand and it may be the means of saving a valuable animal when one has trouble in getting veterinary aid at the proper time. Hot and cold water are needed in the milk room and may easily be provided. Warm water is frequently needed at the dairy barn and a supply should be at hand without running to the house when it is needed. Unless the water is sufficiently cool to preserve the milk and cream during warm weather one should provide means for keeping a supply of ice where it can be used in the milk room. On the average dairy farm the cost of an ice house and putting up sufficient ice to last through the summer will not be large and the investment will prove one of the best that the breeder of dairy cattle can make. Cleanliness and refrigeration are the secrets of producing pure milk and cream.

Among the modern farm machines the manure spreader occupies a foremost position and should be used on every farm where the business is conducted along advanced ideas. It not only saves labor, but it increases the value of the manure. Old methods of spreading manure must go. It must be made to go further, and our policy should be to cover every acre during a rotation of crops. There are two methods of doing this economically: One is to allow stock to scatter it when feeding upon the land, a method which can be adopted with only a very small degree of success during the pasture season, the other by using spreader.

In common farm practice the use of manure spreaders enhances the value of the manure one-third. The farmer with one hundred tons of barn manure worth \$2.50 per ton, will receive a direct benefit of more than \$80 through the use of the spreader in distributing this plant food. This, with the saving of labor, and considering that the machine will last many years, shows that a manure spreader, costing from \$100 to \$150 is a mighty good investment. Many farmers look upon the saving of

labor as the most important reason for having a spreader. It is really the least important.

Inventive genius has blessed in rare fashion the field of the dairy farmer. It would require too much space to tell of the better methods, of the saving in time, or the economy of labor, effected by the inventors in the dairy field. Those who suffer from the lack of utilization of modern dairy equipments can command small sympathy from dairy farmers who use brains in selecting and using them.

No breeding farm is complete without an office, or at least a room, where the owner has a desk and conveniences for keeping records of his herd and breeding operations. No man, no matter how good his memory or how careful he tries to be in the little details of looking after his stock, can give outsiders a favorable impression of his farm and cattle unless he has accurate records to back up his claims. There has been altogether too much guesswork in breeding registered dairy cattle and keeping records of pedigrees and performances of the individuals. A small office or room where one can conduct the farm business, hold conferences with visitors or hired help, and conduct his book-keeping and correspondence will prove of great value on the farm where registered dairy cattle are bred.

Such a room should be equipped with a good desk, a safe where valuable records may be kept, and different account books necessary to keep the farm and herd records. A filing system of outgoing and incoming letters will save a lot of valuable time in looking up old correspondence, and oftentimes be the means of avoiding errors and disputes over the sale or purchase of breeding animals. It is also well to have a good working library and enough current literature regarding the dairy and breeding business to keep abreast of the times and interest men who visit the farm to inspect the stock or buy breeding animals. No breeder can conduct his business intelligently unless he knows what successful breeders are doing and how they find a profitable outlet for their surplus stock. Breeding dairy cattle is no mysterious hocus, pocus business and there are no secrets that are being used to produce better stock on some farms than on others. By reading what other breeders are doing a man can approximate their results on his own farm, providing he exercises equal skill in mating his animals and feeding them for development and production. W. M. K.



Milk Commission's Report

Interesting Figures Show that the Cost of Production and City Distribution are Approximately the Same.

ACTING at the joint request of milk producers and milk distributors in the Detroit area, this Commission has completed nearly nine months of service, and believes that a brief report of its work will be appreciated by producers, distributors and consumers alike, and will tend to bring about a better mutual understanding of the problems involved in providing the people of this great center of population with their milk supply.

At the outset, in its attempt to bring about a fair solution of the vital problems involved, the Commission assumed that the first interest of the consuming public in this connection was the insurance of a stable and dependable milk supply. It further assumed that this desirable result could be secured only by the payment of a fair price to producers of the product, a price which would cover the cost of production, and afford the producer a living profit.

Fortunately, the Commission had at its disposal the result of several years of research in the matter of the cost of producing milk on the part of the Dairy Division of the Michigan Agricultural College, conducted under the auspices of the State Experiment Station. This data was secured from a typical dairy section contributing to the Detroit milk supply, and covered a sufficient number of farms to make the results applicable under average conditions in the entire area contributing to the Detroit milk supply.

Owing to the rapidly advancing costs of feeds, labor and equipment entering into the production of milk, the Commission was obliged to estimate current costs on the basis provided by this experimental data. These estimates were so carefully made that the actual cost as checked up by data taken for the months which they covered very nearly approximated the estimates made. In most cases production costs averaged fractionally higher than the estimates, but on the whole, the results were fairly just to producers, and were beneficial to consumers by stabilizing production and insuring a future source of dependable supply. At the same time, the exact cost data for the months covered by the work of the Commission will enable a still more exact estimate of production costs during future months.

In determining the costs of distribution, the Commission had somewhat less reliable and representative data, although the privately made audits of several of the larger distributors which were placed at the disposal of the Commission gave it a working basis, from which it was able to determine approximate distribution costs. To enable the Commission to check up on this cost estimates it has conducted an investigation of representative distributing plants, including both large and relatively small distributors with the assistance of certified public accountants of good standing, at an expense of several thousand dollars, the cost being shared equally by the producers and distributors in the Detroit area.

This investigation has been carefully analyzed by a committee of the Commission since its completion, and substantiates the conclusion reached by

the Commission from the data placed at its disposal at the beginning of its period of work, that the cost of all services rendered between the producers and the consumers very nearly approximates the cost of production under present conditions, running a little higher than production costs during the months of cheap production, and a little lower during the months of high production cost.

An accurate determination of distribution costs was rendered peculiarly difficult, owing to a lack of uniformity of accounting methods by different distributors, and the incomplete records of many of the plants. The result is, however, considered satisfactory as a future guide for the Commission in its work, both in the matter of price determination, and as a basis for further investigation and recommendations looking toward the economic betterment of distributing methods.

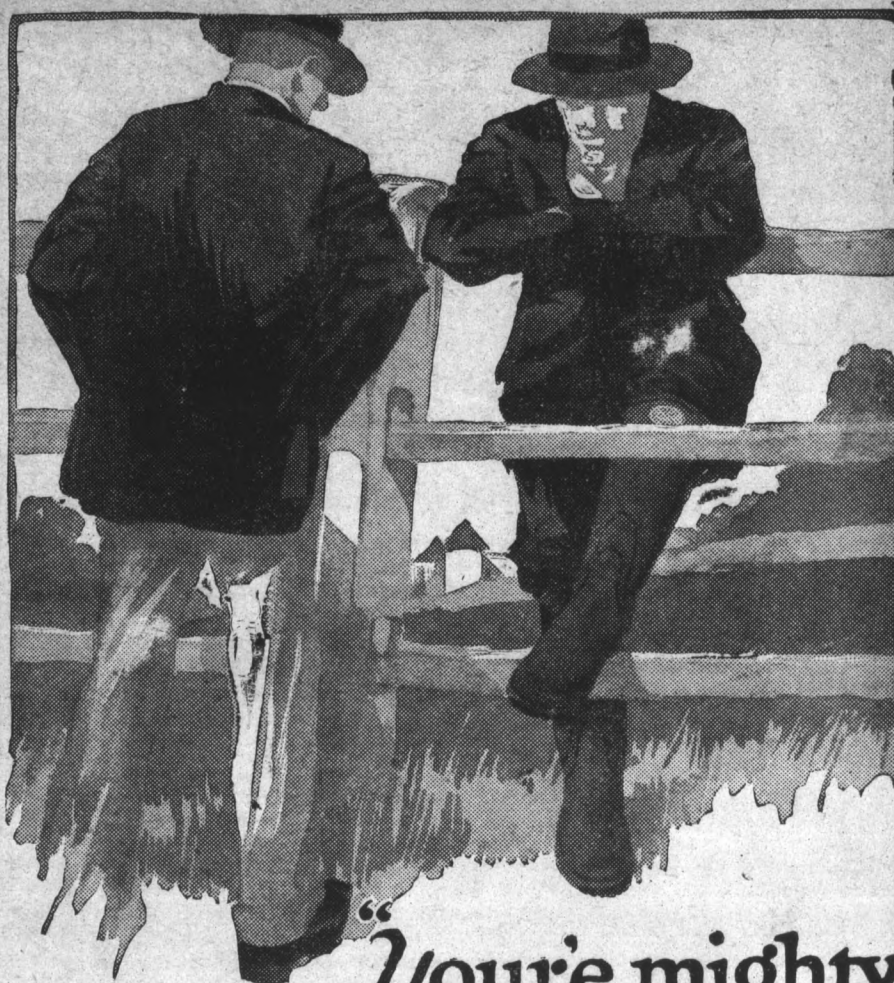
Certain features of this investigation are worthy of special mention at this time as a means of bringing about a better public understanding of the situation. The report shows that in a typical month during the period in which the Commission has served, when the retail price of delivered bottled milk for family use was fourteen cents per quart and eight cents for pints, the average price per quart for all milk sold, including bulk milk and milk sold to stores received by the distributors whose books were investigated for this month was 12.448 cents per quart. This typical difference between maximum and average prices will furnish the consuming public with a basis for future calculation, which will lead to a far better general understanding of the gross income of distributors from the sale of milk.

During this same month the highest net profit per quart of the distributors covered by the investigation that month was less than one-half cent, while the least fortunate of the distributors audited for that month had a loss of nearly one-half cent. In this case, however, as in some others, there was a very large depreciation of product included under the items of loss or shrinkage, which if brought down to a normal figure, would have yielded a small profit instead of a considerable loss to this distributor.

The Commission will undertake a further study of this problem of shrinkage of product and other economic phases of distribution, including duplication of delivery routes, loss of bottles, etc., with a view of the possibility of an economic improvement in distribution along these lines.

All things considered, the Commission feels that the results attained during the first eight months of its work have demonstrated the wisdom of the organized producers and distributors in the Detroit area in settling upon this method of solving the milk problem in a manner which is fair and just alike to producers, distributors and consumers.

With the more complete and authentic data now at hand, the Commission believes that it is in a still better position to do justice to all parties concerned in this problem during the balance of the period which its services have been requisitioned.



"You're mighty lucky to have those Lambertville Boots"

"You bet I am. They were the last pair in the store. There'll be mighty few Lambertvilles for some time."

"Why, I need a pair now. Surely I can get them somewhere."

"No sir-ee, not unless you happen on an odd pair that a dealer has left over. You see the Government's taking nearly all the factory can make."

"Gosh—Sherman sure was right!"


Lambertville enthusiasts are naturally disappointed at the scarcity of their favorite rubber footwear. Dealers, too, are disappointed because Lambertvilles meant good business, rapid turnover and good will wherever sold.

But everybody realizes that war is war and that the Government's demands come

first. And no one will forget the boots, arctics, etc., that have set a new standard in rubber footwear. When it is possible, we will again supply dealers with our full line of rubber footwear.

Until such a time, we ask your tolerance of this unusual condition, over which we have no control

LAMBERTVILLE RUBBER CO., Lambertville, N. J.



REMINGTON UMC

Shotguns and Shotshells for Shooting Right

GETTING the bulge on your year's work means a lot—a lot more if you love dog and gun. By getting yourself in trim with the right amount and kind of recreation, you will tackle next year's work with more vim.


There is much additional satisfaction in store for you if you buy a Remington UMC Pump Gun or Autoloading Shotgun for your days off this Fall. When your well earned chance comes to bag some game, you will then have in your hands a gun made to shoot right. Guns of the same design helped win the Grand Prize, highest of possible honors, "For Modern Firearms and Ammunition," awarded to Remington UMC at the San Francisco Exposition.

The wonderful Wetproof process invented for and exclusively used in the manufacture of Remington UMC Smokeless "Arrow" and "Nitro Club" Steel Lined Shotshells, has been pronounced the greatest advance in shotshell manufacture in a decade. These shells as now made are the first completely wetproof shells. Another Remington UMC contribution to shooting right.

In black powder, buy the old reliable Remington UMC "New Club," now Wetproof sealed at turnover and top wad.

Sold by Hardware and Sporting Goods Dealers in Your Nearest Town

**THE REMINGTON ARMS UNION
METALLIC CARTRIDGE CO., Inc.**
Largest Manufacturers of Firearms and Ammunition in the World
WOOLWORTH BUILDING NEW YORK CITY



TREAT YOUR SEED WHEAT

By Prof. G. H. COONS, M. A. C.

*But Do It Carefully, an Overdose of Formaldehyde
Will Get Your Crop*

ONCE smut gets inside the growing wheat plant it keeps pace with the progress of the wheat, unseen and unsuspected, until the head is formed. Then the smut produces, inside the hollow of the wheat, a black powder. This powder can reinfect the wheat, thus insuring the continuation of the fungus year by year.

To fight smut the farmer takes advantage of the fact that infection comes from the spores outside the grain which can only infect it at the time of sprouting. An attempt is made to kill these spores with some suitable disinfectant. In times past it was found that washing the grain in clean water frequently changed, would reduce the amount of smut. Then there developed the bluestone treatment, in which the grain was soaked in a weak bluestone bath, but this had rather severe effects on germination unless the bluestone was neutralized with a milk of lime bath after treatment. Wheat which was treated with milk of lime was apt to cake and interfere with drilling. Even with careful treatment there was apt to be some injury.

About 1895 formaldehyde was introduced for smut control. The method advised for wheat was that of soaking the grain in tubs of water, skimming off the smut balls. This treatment was very successfully employed but the time required and its inconvenience prevented its widespread adoption. Then as a simplification of the method farmers began to sprinkle the wheat with dilute formaldehyde solution, much the same as is practiced for oat smut treatment. This sprinkling of course, did not secure complete disinfection of the smut powder inside the smut balls, and many of these which broke would furnish a source of infection in the next year's crop.

The farmers of Kent county in 1916 adopted a simpler method of grain treatment in which the concentrated formaldehyde was sprayed on wheat, using one pint to fifty bushels of grain. The grain was covered four hours and was then ready for planting. They used this method in 1916 with marked success and the crop harvested in 1917 was excellent and the smut control marked. Laboratory tests showed that if directions were followed the method was safe so far as germination was concerned. Tests with spring wheat conducted in 1918 have shown that the method can be used and that the reduction in stand is not very noticeable.

In the fall of 1917 the concentrated method was quite commonly used by the farmers of Michigan and because of its great simplicity met with favor. However, from many counties there have come reports of injury to grain as a result of treatment. Where investigations have been made it has been found that some men have used the treatment successfully while others have injured the stand. It will be well to consider the causes of this injury to the stand in order that we may know what are the possibilities of treatment, and how these losses may be avoided. The season of 1918 was a very unfavorable one for wheat planting. The condition of the soil prevented plowing at the regular time and then the rains which set in shortly after the middle of September made work in the fields impossible until late in October. As a result wheat was planted during a wet cold period and the stands, even in the best fields, were not perfect. Investigations of such fields showed that farmers were planting wheat very deep, in some cases as much as three inches. Under the cold

wet conditions this grain did not get above the ground. No doubt the poor preparation of the soil had a great deal to do with the unevenness of the planting depths. In general, it may be said that where treatment was given before September 15 by either the concentrated or dilute method the stands were perfect. Complaint came from wheat that was treated during October.

Analysis of some of the causes of injury to the stand from the formaldehyde treatment showed that injury came with the concentrated and with the dilute method alike. There was more injury reported from the concentrated method because more farmers used that method.

The usual cause of injury was overdosage. The very simplicity of the concentrated method induced farmers who had ten bushels, for example, to treat, to use three to five times the strength of the formaldehyde recommended. This led to the most severe form of injury, the stand sometimes being cut one-third. The treatment recommended is as strong as can be safely used for wheat and any change in the recommending will be toward lessening the dose instead of increasing it.

The directions stated, "cover exactly four hours," but many farmers covered the grain over night. The stands from such were greatly diminished. Many farmers treated their grain, sacked it for two or three days, being held up in their planting operations on account of the conditions of the weather. Such grains gave a very poor stand. There were a few cases, however, where grain was treated and spread out, usually in unfavorable conditions for airing where there was injury to stand. This experience brought out a fact that had not commonly been recognized for formaldehyde, namely that after treatment there is a sort of cumulative effect of formaldehyde which comes about from the fact that where the formaldehyde is sprayed or sprinkled on the grain it changes to the stable form and vaporizes very slowly under warm conditions and not at all under cold, wet conditions.

The directions for the control of smut this year are all hedged around with cautions. Care is taken to point out that formaldehyde, although a gas dissolved in water, does not behave as ammonia or carbon dioxide. Formaldehyde has a marked affinity for water and can not be driven out by boiling even. The treatment as recommended on page 226 is as strong as can be safely used and it is dangerous to increase the quantity of formaldehyde. The period of covering should not be increased over four hours. One county agent is convinced that three hours is plenty long enough. Farmers are urged not to treat and hold the grain for one, two, three or more days. This is very unsafe with either the concentrated or dilute method of treatment. Safety lies in treating only as much as can be planted in the next few hours. Formaldehyde sticks to the grain and airs sluggishly. But when put in the ground the moist soil which is greedy for formaldehyde, will take it up promptly.

The best time to select breeding ewes for next year's crop of lambs is just about the time they are taken from their lambs this year. The ewe, like the dairy cow, should be judged largely upon her performance. The ewes that bring large, thrifty lambs and provide them with plenty of nourishment are the kind that pay for their keep and return a profit.



Husking cost saved!

—that's what this Appleton husker and shredder would really mean to you. While husking the ears, it cuts or shreds the leaves and stalks—farm tests proving that this prepared fodder has twice the feed value of standing stalks or shocks. This increased feed value pays the whole cost of husking, besides giving far greater manure value. The Appleton was

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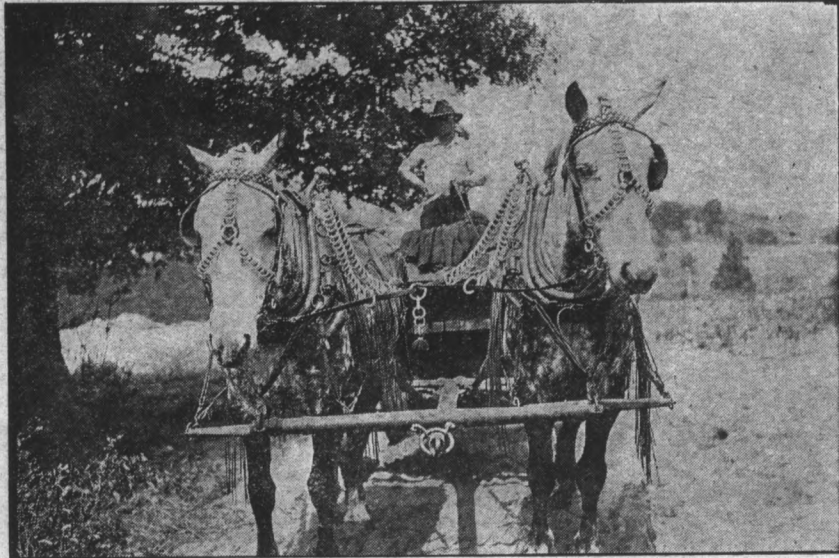
By J. H. BROWN

IN these days we read and hear so much about the good old farm horse going into the discard and that the gas tractor will soon be found on nearly every farm of eighty acres more or less. It is also true, in these days, that we know not what tomorrow may bring forth for us to adopt or rely upon for motive power, but it is certain the horse will be our friend on the farm for quite a spell yet.

A few days ago we were out with and slowly shove his ears ahead while

tion is good, and the moisture does not the way of feed and wild motions and sounds coming from half a dozen men standing around the camera. The horse wasn't the least bit hungry, and his home was on the ragged edge of Camp Custer, so we could offer no excitement or curiosity in the way of noise worth looking at.

However, there seemed to be a sort of understanding between them that



Our Eye Turns Admiringly to the Good Farm Team, Even when the Salesman's Talk is Leading us to Try Other Motive Power.

the highway commissioner inspecting several state reward roads. Here and there we noted a gas tractor on a farm but horses were to be seen everywhere. And it seemed as though nearly every horse in sight in the fields and around the farm building was in good condition and a valuable animal for the purpose designed. In fact, the farm horses generally present a far better appearance than they used to a third of a century ago.

The accompanying picture is of a fine farm team we found in Calhoun county and the owner is justly proud of it. We spent ten minutes, more or less, trying to get both horses to wake up and stick up their ears at the same instant. First one would open his eyes

one horse would alternately act as guard while the other slept a minute or two, more or less. So we had to take their pictures as they stood and as they seemed to want it done.

But the picture is a fine one. The sleepy horse seems to be having a nice little nap all by himself and in spite of everything. The one doing guard duty seems to be all ready to drop off into a doze, and did just after our camera clicked.

Horses will stay on our farms for a long time to come. Even when the gas tractor comes to stay on a certain farm the horse will remain because there are some kinds of work and certain weather conditions that no gas tractor can conquer.

Field Selection of Seed Ears

(Continued from first page).

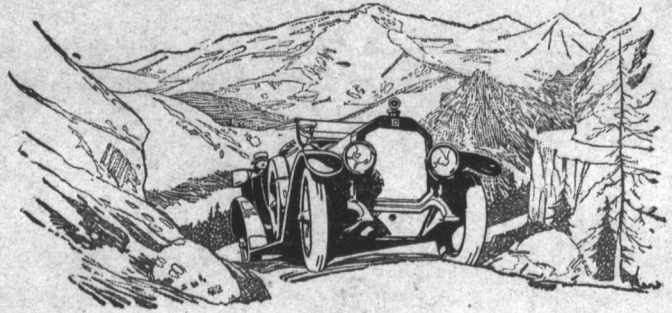
four timbers and poultry wire is being used successfully at the Normal School at Mt. Pleasant, Mich. Two of these racks hold seventy-five bushels of corn. Each rack has two decks made of two-by-four timber, sixteen feet long on edge for the sides and two-by-four, four feet long for the ends. The poultry wire is attached to the timbers and the decks are placed five feet and three and a half feet from the floor respectively. The picture of this curing device will give a fairly good idea of the methods of building. The corn should not be piled more than six inches deep on the wire and then, only after the ears have been partially dried. This allows free circulation of air about the corn, which is very essential for caring for the seed.

No place on the average farm is better adapted to curing seed corn for moderate plantings than the ordinary, well-ventilated garret with windows that may be opened to permit breezes to blow through freely. In such a place the ears will not be injured by frosts during the fall and at the same time be protected from the rain and storm. The room above the kitchen, where the stovepipe passes through, will furnish ideal conditions for curing the seed ears. Corn may be stored in the barn or tool house, provided ventila-

good, and where the moisture does not gather. Even dry corn will absorb moisture from the atmosphere and in case of subsequent freezing its vitality and germinating qualities will be seriously injured.

Nothing will give one a better idea of the value of providing ample curing facilities for corn than the tests for germination in the spring. Let the farmer who believes that proper curing of his seed ears during the fall does not pay, test out ears properly cured and those stored in the tool house or barn and the results will prove to his satisfaction that proper curing pays. But such a test does not fully determine the value of proper curing. Many kernels of corn that germinate readily do not produce a vigorous plant. It is only well cured seeds that produce strong vigorous plants. Life processes go on in the seed kernels at a very slow rate. Expose the seed ears to damp, freezing and thawing weather and the germinating powers are either destroyed or weakened to such an extent that it is difficult to secure a full stand. Proper curing and storing of the seed ears locks up the energy and vitality in the kernels and keeps it there until it is set free by the soil to produce a healthy, vigorous-growing plant.

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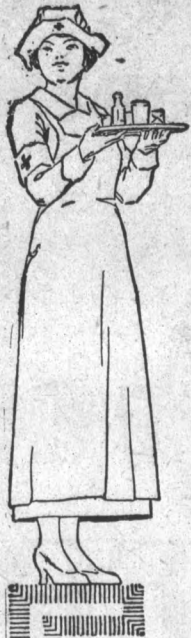
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Every woman wants to help to the utmost limit of her capacity, but frequently she doesn't know how.

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Graham Muffins

1/4 cup brown sugar.
1/2 cup corn syrup.
1 egg.
1 scant tablespoon fat.
1 cup sour milk.
1 teaspoon soda.
A little salt.
2 cups "Yes, Ma'am" Graham Flour.



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Wheat Bread—Two Loaves

3 cups water, or milk and water.
1 compressed yeast in 1/4 cup lukewarm water, or
1 cup liquid yeast and 2 1/4 cups additional liquid.
1 tablespoon sugar.
2 teaspoons salt.
1 tablespoon fat.

About 8 cups Lily White Flour.
Have liquid lukewarm, add yeast, salt, sugar, and fat. Sift in flour to make a batter and beat well. Add flour to make the loaf hard enough to knead. Knead thoroughly and lightly, and let rise until double its volume. Cut down with a knife and let rise again. Knead into loaves. Let rise and bake. If liquid yeast is used set the bread with a sponge. Do not make the Lily White loaf too stiff.



Rye Bread

3 cups water, or milk and water.
1 compressed yeast in 1/4 cup lukewarm water, or
1 cup liquid yeast and 2 1/4 cups additional liquid.
1 tablespoon sugar.
2 teaspoons salt.
1 tablespoon fat.
About 8 cups Rowena Rye Flour.

Have liquid lukewarm, add yeast, salt, sugar and fat. Sift in flour to make a batter and beat well. Add flour to make the loaf hard enough to knead. Have the dough for rye bread considerably thicker than for wheat bread. Do not attempt to knead it but work it by folding it over. Let rise until double in volume, cut down with a knife and let rise again. Shape into loaves and let rise. Bake in a little slower oven for a little longer period than wheat bread. If liquid yeast is used, set the bread with a sponge.



Biscuits

2 cups Rowena Self Rising Biscuit Flour.
2 tablespoons fat.
Cold milk or milk and water to make a soft dough.
Roll out lightly to 1/4 inch thickness. Cut and bake in a hot oven. Rowena Self Rising Biscuit Flour is especially suited for cake and pastry work.



Johnny Cake

2 cups Golden G. Granulated Meal.
1/2 cup Lily White Flour.
1/2 teaspoon salt.
1 teaspoon soda.
1 cup sour milk.
1/2 cup sugar.
1 egg.
2 level tablespoons fat.



Pancakes

2 cups Rowena Buckwheat Compound.
1 tablespoon sugar or syrup.
Sweet milk to make batter of desired consistency.
Bake at once. Do not use sour milk, soda salt, or baking powder.



Pancakes

2 cups Rowena Self Rising Pancake Flour.
1 tablespoon sugar or syrup.
Sweet milk to make batter of desired consistency.
Bake at once. Do not use sour milk, soda, salt or baking powder.

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The FARM BOY
and GIRL
SCIENTIFIC and
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Program for Boys' and Girls' Clubs

IN all of the many types of work or projects carried on by Boys' and Girls' Clubs, one of the essential aims of the work is to give the boys and girls through the work, education and training along that particular line. Much of this is accomplished through the bulletins of instruction furnished to club members, as well as the other printed instructions which are sent out to them from time to time by the Boys' and Girls' Club Department.

One of the most interesting, as well as one of the best ways of giving instruction to boys and girls along the line of their project, is the well organized, well planned and well balanced club program. The club program should be an essential part of the study work of the club. These programs, as well as the bulletins and other follow-up work, should fit the club members to do their work better and should make more economic and more efficient farmers and home-makers of the club boys and girls. The club meeting, in other words, should anticipate the needs of the boys and girls and fit

Any Organization to be Effective Must Have a Plan of Work. The Plan for Boys' and Girls' Club Work Includes as an Essential Part, a Series of Well Worked Out Programs. The Article Below May Help Some Local Leaders and Club Members in Laying Out a Scheme of Club Work that Will Appeal to the Young People of Their Respective Communities.

them to meet these situations readily.

Perhaps the best plan for working out successful club programs is to have a program committee of two or three members appointed from the club, this committee to act with the local club leader in arranging the programs for the club meetings. This will put part of the responsibility on the boys and girls but will insure that the programs are well arranged. These programs should not be too long and they should begin and close on time. They should be advertised ahead of time so that all members and others taking part may

be well prepared. At first it may be necessary to use outside talent, but more and more the responsibility should be placed on the boys and girls and on local people capable of helping with now and then outside help to keep the interest at high point. The more good local leadership that can be developed, however, the more successful will the club become.

The programs will naturally consist of some regular business that may come up from time to time and the educational matter that should be emphasized for the benefit of the club mem-

bers. Every club meeting should require an interesting educational response to roll call by club members. It should also include a talk or paper by one of the members, together with a talk by one of the adult leaders or outside speakers on some phase of the work important at the time. For example, at one of the first regular meetings of a pig club, members may be asked to respond by giving the age, weight and name of their pig. This will insure that they have this data which will later be required in their reports. At this same meeting, some good local stock man may give the boys an interesting and instructing talk on the feeding of newly weaned pigs. One of the boys may be asked to show and explain briefly how he is keeping his record or one may be asked to tell just how he is caring for his pig. At times it is well to have short debates or interesting phases of the work.

Another interesting part of the regular meeting should be the demonstration. (Continued on page 242).

WORLD EVENTS IN PICTURES



James 'Pink' Arlington, U. S. Army's most expert horse breaker. His business is to tame wild horses of the various camps, no easy task.



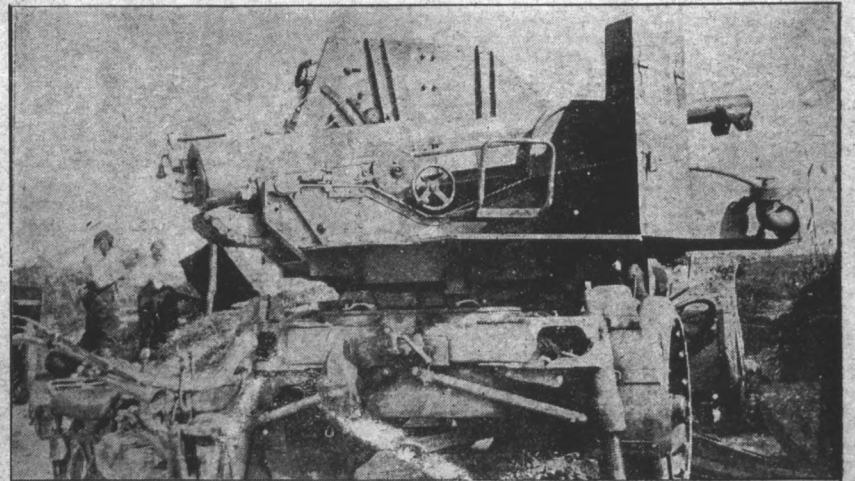
Daughters of a prominent Alsatian. These girls escaped from their home city before the invasion of the Germans, and later came to the U. S.



Both man and horse now wear gas masks at the front, as the horses are susceptible to poisonous gases blown from enemy trenches.

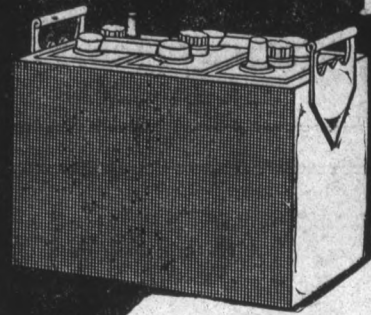


This French girl, in conversation with an army surgeon, does the work of the farm while the men are away fighting. There are no slackers among the brave French women.



Anti-aircraft gun mounted in a movable turret on a heavy motor truck. These are necessary in destruction of enemy airplanes which fly over the Hun lines on spying tours.

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You Run No Risk

The only way we can afford to put such a low price on these high quality batteries is to sell them for cash. We will open no accounts and we must turn our money over quickly. We make you the judge. After you receive your battery you have 10 days to decide whether or not you want to keep it. If not, return it (prepaid express) and your \$19.50 will be returned without delay or argument. This is a bona fide proposition with no strings tied to it. It's a straight out and out opportunity to save at least half the cost of a battery.

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This advertisement is being read today by thousands of motorists and we firmly anticipate that the entire stock will be gone in 10 days. Probably never again you be able to buy such a high grade standard battery at such a low price. And, remember these are not used batteries—they are new and come direct from the battery manufacturer. Second hand batteries sell for more than \$19.50—it is cheaper to buy a new one from us than to repair your old one.

Use Coupon-Order

Fill in this coupon, pin a money order to it and mail today. Orders will be filled in the order of their receipt. It might even be well to stick a special delivery stamp on your letter.

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YOUR THRIFT COUPON

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Gentlemen:

Attached find money order for \$19.50 for which you will please ship me one (1) of the batteries advertised in the Sept. 14 issue of "The Michigan Farmer."

Make of Car.....Model.....

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NOTE:—It is understood that I have the privilege of returning the above battery within 10 days from date of its receipt if I find it does not come up to your representations.

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Beautiful Home and block (8 lots) of land a block and a half from Central Michigan Normal School, all kinds of fruit, shrubbery, shade, will sell or trade for good farm. Cooper, Gover and Francis, Mt. Pleasant, Mich.

FOR Sale to close an Estate 180 A. Good buildings well fenced, plenty of water and timber. Also 36 head fancy Angus feeding steers. For particulars address W. S. OADY, Litchfield, Mich.

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A FLYING FIGHTER

by L. T. EMROBERTS, R.F.C.
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(Continued from last week).

I was at a loss what to do and so I consulted my maps as to the location of the nearest aerodrome. It was twenty miles away and in the direction of my flight. My two gallons of gasoline might take me there, and so I started off. About fifteen miles further on my engine again stopped, this time for want of fuel. Just then the rain storm struck me. I had taken the precaution to go up high enough so in case something should happen I would have room for a safe landing. But to dive in a rain storm is a very trying experience. The great speed of the machine causes the rain drops to strike hard, giving one the sensation that a thousand needles are being driven through the face. The water also blurs the sight as it dashes against the glass of the goggles, and the situation is rendered more difficult by the air currents, which during rains become very pronounced.

I had spotted the aerodrome I wanted to get to about half a mile ahead of me and started down for it; but I fell into so many air holes and was bumped so much by the currents that I began to fear the machine would be torn to pieces. I wished to land in the aerodrome, but feared that if I continued in the direction I was going I would end in a crash, as I had not enough height to make the 'drome. It seemed best to attempt landing in a field, and I was about to do so when some of the men from the aerodrome came out to help me.

As I tried to settle to the ground the men got ready to catch me by taking hold of the wings, which is the usual way of catching machines as they land in an aerodrome in strong gales or storms.

But for some reason that machine would not settle down but made straight for a fence. I tried to put a sort of brake on the bus by applying pressure on the tail skid. This is the only way one can stop a machine; the tail is light and the pressure is not heavy enough to pull a fast machine up in a short space, but it helped. Two men seized a plane each and my landing would have been a success had it not been that one of the men stubbed his toe and let go.

The part of the machine which was released began to spin about the part that the other man was holding. A tire flew off one of the wheels, and for a moment it looked as if I was to have a spill after all, but luck was again with me and I came out of it safely.

The aerodrome upon which I had landed was only in the course of construction, and for that reason I had to telephone to another aerodrome to get a tire, and the gasoline and oil I needed. Since there was no telephone at the 'drome, I had to go to a nearby village to attend to this matter. I had just started off when I heard a crash from the direction of the aerodrome. Looking around I saw an airplane standing on its nose. I rushed back to

(Continued on page 238).

NEWS OF THE WEEK

Wednesday, September 4.

The Allies driving hard on the western front are forcing the Germans to fall back along the entire line from Lille to Rheims. Germans are forced to abandon Lens and the famous Wotan switch is now in the hands of the Allied troops. British forces sweep south along the Hindenburg line and make that barrier less tenable at its northern extremity. Allied troops are within thirteen miles of Lille, six miles of Douai, eight miles of Cambrai, fifteen miles of St. Quentin, seventeen miles of La Fere and twelve miles of Laon.—One-half of the railroad men in this country share in the wage increases approved by Director-General McAdoo.—Four thousand Michigan men arrive at Camp Custer to begin their military training.

Thursday, September 5:

French and Americans reach Coucy-le Chateau, key to Laon, and between Soissons and Rheims they have crossed the Vesle river at several points.—Haig's forces make advances in the vicinity of Armentieres, an important railway center.—Voluntary enlistments for the United States army have been discontinued by order of General March.—Four persons are killed and more than seventy-five injured by the explosion of a bomb in the Federal Building, Chicago. Secret service men and police search for I. W. W. members supposed to have been responsible for placing the bomb in the building.

Friday, September 6.

French recapture thirty villages from the Germans. South of Fresnoes the French have penetrated the old Hindenburg line. British push on toward Cambrai. Enemy aircraft destroyed since August 8 number 465, while 200 are reported disabled by Allied machines.—The Supreme Court of Michigan rules that the proposed beer and light wine amendment cannot go on the ballots in the November election.—Aviator starts on first trip in New York-Chicago aerial mail route.

Saturday, September 7.

In the old Noyon salient the French capture the important towns of Ham and Chauny, with railroads and roads

leading respectively to St. Quentin and La Fere. Across Canal Du Nord the Allied armies have penetrated at various points to a depth exceeding six miles. General Mangin captures the forest of Coucy which opens the way to the famous Chemin des Dames.—United States Senate votes to make the nation dry July 1, 1919, and provides that the manufacture of beer is to be prohibited after December 1, of this year.—Chicago Board of Education votes to discontinue teaching of German and all other foreign languages in the elementary schools this year.—Air mail between New York and Chicago is now a fact, the first delivery being made in thirty-six hours and fifty-six minutes.

Sunday, September 8.

In the past week the Germans have fallen back from one to seventeen miles on a front of 175 miles; British have recovered 330 square miles of French territory and captured 18,000 prisoners, while the French, with the assistance of the Americans, have wrested from the foe 430 square miles of land, including 167 villages and taken 4,000 captives. French make further advances on the Somme. Much coal and other war booty is taken by the Allies. Both ends of the Hindenburg line is now pierced by Allied forces.—Federal government will publish lists of grocery dealers who charge fair prices, with the idea of compelling those charging prices higher than conditions warrant to reduce their margins of profit.—There is a very general compliance with the order to not use automobiles for pleasure on Sundays.

Monday, September 9.

Germans fight furiously to halt drive of the Allies, and orders artillery to destroy tanks and cavalry. Despite this, French rapidly circle St. Quentin, capture Vaux and Hamel, and are outflanking the St. Gobain forest. At the same time General Haig, farther to the north, pushes forward two miles. Americans capture a nephew of kaiser. —Thirty-five persons are killed when a United States steamship, a former German vessel, is torpedoed 200 miles

(Continued on page 246).

DU PONT AMERICAN INDUSTRIES



notified... They expressed belief that the Celtic was en route to America, but had no knowledge as to whether she carried any passengers.

WAGES WAY UP!

MECHANICS MAKE \$125 WEEK; CARPENTERS, \$10 DAY

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and **SAVE MONEY**

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will safe guard your home and save you money. It is durable paint made to withstand the ravages of time and hold its pleasing color.

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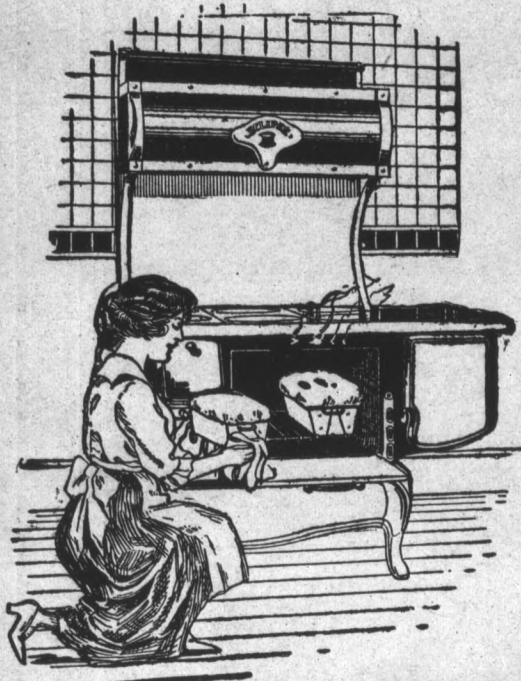
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Model "C". Used Very Little.
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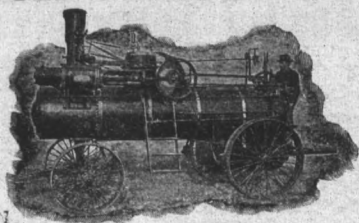
50 good Belgian Hares, and other large Rabbits, also some fox and Rabbit hounds, enclose stamp.
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Isbell's Fall Catalog Free gives full information. Write for it today.

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Box 10 Jackson, Mich.

Red Rock Seed Wheat

\$3.00 per bu. new 16 oz. bags 70c each.
YOUNG-RANDOLPH SEED CO., Owosso, Mich.

A Flying Fighter

(Continued from page 236).

the aerodrome to see if I could be of any help to the poor devil, but found that he was dead. We had to cut his body out of the wreckage. Then we wrapped it up in a blanket. The poor man was an awful sight. His head had been completely crushed in. Right then and there I made up my mind that flying after all was a poor game. It occurred to me that any fool could fly, but that it took a wise man to stay on the ground with both feet.

I rested up that night and on the next day flew that bus of mine over to France and delivered it O. K. But all the time that I was up in the air I thought of my poor dead pal, for in the Flying Corps we are all pals.

The thought of quitting the flying business had come to me before, but there is a peculiar fascination about it. Hairbreadth escapes may momentarily sicken a man of the sport, but when the occasion has passed he longs to be up again in the blue.

The work I was doing had ceased to interest me. I wished myself back at the front, and made several attempts to get there. But the attack of gas poisoning had left my lungs in very poor condition, and constant exposure to the raw wind while flying did not seem to make them better. Still I wanted to be back in the game in France, or as Tommy calls the country, 'Ell. On the other hand, I had the consolation of knowing that so far I was not "pushing up daisies"—another expression of Tommy's when he wants to say that some pal of his has died. Meanwhile, I had made up my mind sometime to get a bus of my own and then fly to suit myself.

Testing and ferrying airplanes from one part of the world to the other had come to be my lot, it seemed. The air had now lost most of its thrills for me and the only surprise that came my way was when some comrade of old came to look me up.

One fine afternoon an orderly came to me with the information that there was somebody looking for me at the gate. To my surprise I found there one of the survivors of the old Tenth Canadian Battalion, and they were exceedingly rare now. The man's name was Maklin.

CHAPTER XIX.

Old Times and New.

MAKLIN and I had lived together in the same section of Canada, and he was one of those who had enlisted in the original three hundred that joined at Calgary. For a long time I had not heard of him and I had given him up for dead. The last news I had of him was that he had an eye shot out and had also lost part of his nose while rescuing his company commander from the barbed wire field in front of the trenches. For that Maklin had received the D. C. M.

When Maklin called he had with him Corporal Kerr, owner of a Victoria Cross. I took the two men into my quarters and there we got Kerr, after a deal of urging, to tell how he earned the V. C.

"Well, you know," he started, "we were out in the firing trench and we were doing our trick at sentry one morning at dawn. I was just talking over with a pal how sick we were of trench life and how disgusted with everything in general. Just then a sniper from the other side picked off my pal.

"That made me so mad that I got over the top and started for the Hun line."

"I got over without being hit and rushed straight for the Hun trenches, hitting the bottom of one just at the entrance to a dugout.

"I hollered down to them to come up. The first two or three showed fight

and I stuck them as they kept coming out.

"I kept sticking them until I had cleaned out that dugout. Then I went to another dugout, and as they came out I made them disarm and get over the top of their own trenches into No man's Land.

"When I had the bunch out there I climbed after them and started for our trenches, just in time to meet some of the men who were coming over to help me.

"I had killed twenty Huns and made sixty-two prisoners. Hence the decoration."

Kerr would not talk much about the other stunts he had done, but he said that this one was nothing at all.

We passed a very pleasant afternoon together. Ham, my "side kick," took Maklin up for a ride while I showed Kerr the different machines. Then we talked trench warfare and finally drifted back to the experiences we had had back home.

While I was talking to Kerr a couple of Grahame-White machines passed over head, and I explained to him that they were called Grahame-White bullets on account of the speed they did not have. These machines were then being used for training purposes.

To show Kerr what a really good machine could do, I got into a small scout flier of the DH5 type and went up. But my demonstration didn't work out. On taxiing out to get the wind, the under-carriage broke and let the bus down on one side. So I went back and resumed the "chin-chin" with Kerr and the other boys. That evening we dined together and talked of old times.

But life was still a matter of testing machines and delivering them. One day when the weather was thick I was scouting around at about ten thousand feet. I noticed that the balloons were up all over the country, which meant that more weather was coming. The balloons in question are sent up by the London weather bureau in order that the general direction and nature of the wind and weather conditions may be learned.

When I saw the balloons I made up my mind that I would have to go still higher to escape the storm, but I had not climbed very much when of a sudden it grew dark and more sultry than ever. There was lots of clear blue beyond, of course, and I decided to make for that as fast as I could. I was doing very nicely when a black object loomed up in front of me. It was one of the weather bureau balloons. There was no telling what might happen in case I hit the thing, but to avoid it was possible only if I made a very sharp turn to the side. I twisted the machine around and missed the balloon by just a few feet. The current made by my propeller caught that gas bag, however. It began to swing wildly, and for a moment I feared that it might turn upside down. The men inside the car hung on to an armful of guy ropes for dear life. While it would have been impossible for me to help the men, I made a flight around the balloon. But the men in the car were now scared more than ever. They motioned to me to go away. I did not hear what they said but I guess it must have been quite unprintable. There was nothing else to do but to plunge into that haze again and continue going up.

At fourteen thousand feet I reached the top of that layer. I had started out in hot and sultry weather and for that reason did not have on my heavy clothing—just a dirty trench coat. The machine I was flying at that time used castor oil and a lot of it was always being thrown over the bus. It was cold at fourteen thousand feet, and I was just thinking of the many nicer places

I could be in when the engine took a notion to stop. There was nothing to do but go down for the time being, so I plunged back into the haze and the cloud formation, and while the machine was planing down I did my best to find out what was wrong with the motor.

I was still within the sphere of the balloons, so between keeping my plane from going down on its tail, examining the motor, and keeping an eye open for possible balloons, I was kept rather busy. I was within one thousand feet of the ground, according to my instrument, and still the engine refused to budge. I began to look for a field in which I could land and discovered the pasture of a dairy farm. There was a large herd of cattle in the field but I had not noticed them on landing. When I saw them they were making for the fences and hedges in all directions with their tails up in the air. The trouble was that the said fences and hedges were all a little too high. Three or four of the animals were beached as they reached the top of the hedge and seemed to find it impossible to move either way.

The old farmer to whom the animals belonged did not appear to be pleased. He came out with a gun in his hands, and for a few minutes it looked as if he intended using that barker on me and my bus. The man was red in the face and mad clean through when he reached me.

"Ay myte! What do you think this is—a bloomin' 'eathenish picnic?" he shouted. "What do you think I'm runnin' 'ere—a bloomin' circus!"

I explained to the wrathful farmer that I had not come down to scare his cattle on purpose, telling him that my engine had broken down and forced me to land in his field.

He wanted to know why I had to land in his field.

I explained to him that his field was the only one big enough to land in.

But that did not seem to improve the temper of the man any. He informed me that he was going to claim damages for three days' milk from the government.

At first I did not know what he meant by three days' milk. Then he informed me that he was sure his cows would not give any milk for three days.

From the look of things I gathered that he was not far wrong. Some of the cows were still struggling to get over the fence one way or the other, and were having quite a lively time of it. But in the end they managed to get away.

A shot of brandy from the flask I always carry with me did not seem to make any appeal to the man. I offered him the flask but he turned me down. Then, in order to get the fellow into a better humor, I offered to take him up for a ride, but he said that it was not for him. He had too much sense to go flying in a "bloomin' rattletrap like that."

Thinking that I might yet be able to do the man a favor I offered to take up his wife, but to my great surprise the farmer was madder than ever.

We had a verbal set-to right then and there, and in the course of the argument I called the farmer a pro-German. This outraged him to such an extent that I really began to fear the man was going mad.

(Continued next week).

CONSTANCE.

I wear a suit of khaki hue,
In memory, my beloved, of you,
It's make is military, too,
With nifty buttons, not a few
Of late trench model is my shoe
And all I read and all I do
For motive, finds in war its clue.

I've knitted socks and sweaters, too,
For soldiers, boys, you'd want me to,
Drink coffee, 'tis the army brew
But martial steps, I dancing do,
And lest I fall in love anew
To every soldier passing through
O give a kiss, because of you.



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Dependable Spark Plugs

Big Increase in Porcelain Efficiency

Three Times the Resistance to Breakage from Sudden Change in Temperature



THREE THOUSAND
Four hundred and forty nine experiments, ten years of unremitting laboratory work—and then came the startling results of—

Experiment 3450

Now you may be virtually certain that the porcelain insulator of your spark plugs will never break from sudden change in temperature.

Champion Porcelains have always stood up well under temperature changes.



But Champion 3450 Porcelain has three times the resistance to extreme temperature variation compared with the best previous porcelain.

Always dependable, Champions are now Super-Dependable. Insist on Champions for your motor—see that Champion is on the Porcelain as well as on the box.

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For Prices, Particulars and descriptions,
Write or Visit Our Farm

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OXFORD RAMS

1 2 year old, 3 yearlings and 6 lambs. All reg. EARL C. McCARTY, Bad Axe, Mich.

Reg. Oxford ram lambs; come by auto and take the choice at \$30 and \$35 fine stock. 2 S. 3 W. St. Johns. J. R. HICKS, St. Johns, Mich.

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For Sale. Eight thorough bred, registered ram-boulet yearling rams \$65 per head. J. W. GRAHAM, Davisburg, Mich.

RAMS Sired by a ram previously used at M. A.C. well built, splendid covering, good size, and registered in the Standard Delaine Register. Can furnish car load of good rams. C. R. PARSONS, Saline, Mich.

Registered Hampshire ram lambs for sale. Weighing up to 130 lbs. Aug. 10th., at \$25.00 and up. Also a few yearling rams. CLARKE HAIRE, West Branch, Mich.

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PALMER BROS.

R. R. Orleans, Belding, Mich.

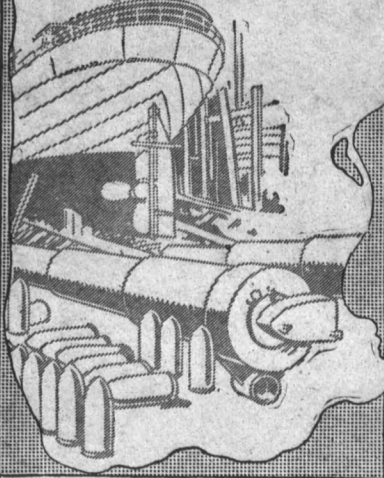
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Percheron Stallions and mares of reasonable prices; inspection invited. F. L. KING & SON, Charlotte, Mich.

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The iron you save is war material. The space you save in the freight car is needed for war shipments.

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Saves fuel because the riveted oven is airtight. No fuel is wasted through escaping heat. Saves food because it bakes perfectly and evenly. Saves repairs because it is made of unbreakable malleable iron and rust-resisting, charcoal iron.

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Tilling gives you quicker drainage in wet fields and more moisture in times of drought.

Roots will go deeper and get more nourishment—crops will grow faster and better. American Vitrified Salt-Glazed tile is frost and acid proof, and will give you a lifetime of service. Write for folder and name of dealer near you.

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WE WANT ALL KINDS OF FURS WOLF, LYNX, BEAR, FOX, BEAVER, WILDCAT, MUSKRAT, SKUNK, MINK, ETC.



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Remits Quickest. Pays Cash. Holds shipments 5 days if desired. FURS ARE HIGH. Catch all you can. Follow our illus. TRAPPER'S GUIDE. IT'S FREE. Send for it. Make big money. Frequent PRICE-LISTS sent to keep you posted. TRAPS AND BAIT, the kind you want. Get to know us. In business HALF A CENTURY. Biggest House. MOST CENTRALLY LOCATED. Ask any Bank about us. First in U. S. to send Price-Lists to Trappers. Cash for Hides. Let us quote.

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"The Old Square Deal House"
Box 123, Fort Wayne, Ind. U.S.A. Capital \$1000,000.00 Paid
Everybody Interested Write

Good Clubbing Offer

No. 8.

Michigan Farmer, 1 yr., wk. \$1.00
Breeder's Gazette, wk. 1.50
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Comb and extracted honey wanted in quantities of 500 pounds and upwards. State quantity and source M. H. HUNT & SON, Box 525, Lansing, Mich.

"Mother Does It Just as we Did at the Club Yesterday."



A Really Rural Canning Club

By DEBORAH

THE only strictly rural canning club in Michigan, where oil stoves are used and water must be carried from the well—that is what A. G. Smith, county agent for Kent county, claims for the canning club of Floralview school. Best of all, this club was organized, equipped, set in motion and is being run by the girls themselves, the oldest girl and leader, Miss Edna Muth, being barely eighteen years of age, a girl who has never been to any school except the one where she is now conducting the canning club.

Floralview Club was organized in June, 1917, just a little more than a year ago, with ten members. The school already had its social center, which organization had purchased one two-burner oil stove, a zinc-covered table and a few cooking utensils. A little cloak room at the back of the small school building was turned into a kitchen when the center flourished, but since the canning club took possession they have moved the table and stove into the front of the school building near the door, and utilize the vestibule as a pantry.

The ten members last year did things. Just how well they did them is shown by the fact that they won \$20 in prize money at the State Fair and a Hall canner besides. In addition they won \$5.00 state prize money on their exhibit in their own school building. They promptly bought another oil stove, giving them four burners with which to work, and spent some money for helps in canning, forks for lifting, basins for blanching, cheesecloth, pails, etc. Under the direction of Mr. Smith and Miss Margaret Erickson, they are now organized for business. Six cents a can is the price they charge the neighboring women for canning their garden products and fruit, and they are busy every Tuesday and Saturday afternoon, the two days on which they meet.

If the four hundred thousand cans of fruit and vegetables assigned Michigan boys and girls are not produced it will not be the fault of Floralview Club. The hottest August day which western Michigan has known for thirty years, found a half-dozen girls holding the home trench. Beets and beet greens were to be canned, and though the thermometer had climbed above one hundred degrees and no breeze penetrated the tiny school room, these earnest canners graded and washed and blanched and cold-dipped enthusiastically. What they lacked in modern equipment they made up in ingenuity. A coverless pail was all they had for blanching the greens, which must be done in steam. So they hunted up a basin which just fitted the pail, tied this up in the cheesecloth with the greens, and set it in the pail, thus keeping the steam in the pail and the greens out of the water.

The club is divided into groups, af-

ter the manner of all canning clubs. Each group is assigned certain duties—washing vegetables, blanching and cold-dipping, packing the cans, keeping time, removing from the water, etc. Each day each group moves up one notch in the division of labor, so that the girls who washed vegetables one day will blanch at the next meeting, etc. In this way every girl learns to do every part of the work of cold-pack canning. The girls are very practical and while they stick to the foundation principles of canning, they study ways and means of utilizing their small work room and limited amount of table room to the best advantage. While many object that oil stoves are too slow for cold-pack canning, they have not proven a serious obstacle to this group of school girls. If the water doesn't boil in five minutes, why it will boil some time, so the only thing to do is to be getting your vegetables or fruit ready while you wait.

Three members dropped out of the club last year, but enough joined this year to bring the number up to eleven, which number includes one boy. The officers are Miss Dorothy Smith, president; Miss Bernice Helsel, vice-president; Miss Dorothy Muth, secretary; Miss Florence Cummings, treasurer. In four afternoons they canned nine quarts of beets, eight and a half quarts of apples and five and a half quarts of greens, which, with the thermometer hugging one hundred degrees, is not a bad record for a few girls ranging from eleven to eighteen years, with one of their own number as leader.

The girls, themselves, are enthusiastic admirers of the cold-pack system. Their mothers, too, are converts.

"You can see what my mother thinks of it when she is letting my sister and me do all hers that way," said Miss Muth. "We tried it first last year and not a can of what we girls put up spoiled, while mother had several jars of fruit, put up by the open kettle method, spoil. This year she is having it all done cold-pack. Of course, it takes a little longer to get it started, but after you get it in the can you can go away and leave it to cook while you do something else, while with the open kettle, you have to watch it every minute. Everything looks better, and tastes better, too, this way, we think."

Just as busy as the Floralview Club, and with fewer obstacles to overcome, is the Sheldon School Canning Club in Grand Rapids. This club boasts forty members and meets daily with some woman of the neighborhood overseeing the girls, and Mrs. Sarah Ankney, a teacher in the Sheldon school, as general supervisor. Here the girls have everything furnished by the board of education. There was no need of raising money to buy equipment, it was already there in the school kitchen. And gas and running water are at their hand, with the same board to pay

bills. They charge but five cents a can for canning for non-members, and any member of the club is at liberty to bring her produce there and can it free of charge.

A good many cans of beets, carrots, greens, beans and tomatoes are being canned there these days from the little city gardens around the school. And any woman who would not be pleased by the fine looking jars she carries home would be indeed hard to suit. This club, being so large, is divided into squads, one for each half day, and nearly every squad has at least one boy who is not only assigned the duties of book-keeper but is also introduced into the mysteries of scrubbing carrots, peeling beets and breaking up beans. The director usually handles the hot cans, though the older girls beg for the privilege of doing this part of the work, too.

The club is a part of the Clover Leaf Garden Club and the members wear a four-leaf green clover on their caps. They are banded together with the following pledge:

"I pledge my head, my heart, my hands and my help through food production and food conservation to help win the world war and world peace."

"By the Way"

UNCLE PETER'S EPITAPH.

Beneath this stone, a lump of clay,
Lies Uncle Peter Daniels;
Who, early in the month of May,
Took off his winter flannels.



Old King Coal Was a Merry Old Soul.

Diner.—"Waiter, this knife is dull and this steak is like leather."

Waiter.—"How would it do to strop the knife on the steak, sir?"

SOME APPETITE.

A bunch of potato pickers in Aroostook county, Maine, were swapping stories about large potatoes they had seen. One, an Irishman recently arrived from the Emerald Isle, listened without remark to the stories until he could stand it no longer. He broke in with a snort:

"Huh, ye talk about the big potaties in this country. Ye should see thim as we grow in Oireland. Ivery wan av thim is as big as yer fut, and six av thim would make a meal fer a man."

GRANDMA'S METHOD.

The teacher was giving her class in arithmetic a lesson in measurement.

"Bernice," said she, "how do you find the length of anything?"

Bernice, who had seen her grandmother measure off cloth, replied:

"You can find the length of anything by smelling it."

POOR BOY!

In a Tennessee town a boy was being tried for killing his mother and father. When the sentence was fixed the boy turned appealingly to the judge and exclaimed.

"Oh, judge, have pity on a poor orphan."

The Heart of the Home

Hummer Pipeless Furnaces

Pipeless furnaces are a success. They will keep the home, the church, the store or other buildings comfortably warm in severe Winter weather. Their principle of design permits a natural, healthful ventilation not possible with stoves. The first cost of the Hummer Pipeless Furnace is lower than any other type of central heating plant. The cost of operation is less because practically all of the warm air passes directly into the building to be heated.

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Nearly anyone can install a Hummer Pipeless Furnace. If you are handy with a hammer and a saw, you can install the Hummer. There are no long runs of pipe to put up in the basement—just one small connection between the furnace and the register. The only cutting necessary is in the floor where register will fit. The entire plant is located in the basement. No dust, dirt or gases will escape in your home—only fresh, warm air. The Hummer can be installed in old buildings just as easily as in new buildings. If you do not have a basement, you can dig a pit large enough for the furnace. You can then enjoy the advantages of a furnace heated home as well as your neighbor who has a basement.

Let Our Experts Answer Your Heating Questions.

We have prepared a circular which tells and shows the advantages of a one-register warm air heating plant—how to install it, how to operate it. It shows pictures of homes it can heat and letters from satisfied users. Send us a postal for circular No. 75M71 and then put our heating experts to work on your problems.

Sears, Roebuck
and Co.,
Chicago

The Hummer Costs Little to Install and to Operate.

The Hummer is one of the most economical central heating plants you can purchase. There is no loss of heat by radiation, as all of the warm air passes through the one register into the rooms. Another saving is in the grade of fuel. Expensive coal is not required. Many of our customers use wood. Others use a very cheap grade of coal. Customers tell us it costs them less to heat their entire home with the Hummer Pipeless Furnace than it formerly had cost to heat two rooms by stoves.

Have a furnace heated home, where all the rooms are livable in Winter, for about the same cost as a heating stove.

MICHIGAN FARMER PATTERNS.

Any of the patterns illustrated may be secured by sending order to Pattern Department, Michigan Farmer, Detroit, enclosing the amount set opposite the patterns wanted.

No. 2533—Girls' Dress. Cut in five sizes, 4, 6, 8, 10 and 12 years. Size 10 will require 3½ yards of 44-inch material. Price 10 cents.



No. 2535—Juniors' Dress. Cut in three sizes, 12, 14 and 16 years. Size 14 requires 4½ yards of 44-inch material. Price 10 cents.



No. 2544-2543—Ladies' Costume. Waist 2544 cut in seven sizes, 34, 36, 38, 40, 42, 44 and 46 inches bust measure. Size 38 will require 2½ yards of 36-inch material. The skirt 2543 cut in seven sizes, 22, 24, 26, 28, 30, 32 and 34 inches, waist measure. Size 24 requires 3½ yards of 44-inch material.

The skirt measures 2¼ yards at the foot. Two separate patterns, 10 cents for each pattern.

No. 2543—Ladies' Dress. Cut in six sizes, 34, 36, 38, 40, 42 and 44 inches bust measure. Size 38 requires 5½ yards of 44-inch material. The skirt measures about 2½ yards at the foot. Price 10 cents.



No. 1644—Child's Rompers. Cut in five sizes, 1, 2, 3, 4 and 5 years. It requires three yards of 27-inch material for a four-year size. Price 10 cents.

No. 2338—Girls' Dress. Cut in four sizes, 2, 4, 6 and 8 years. Size six requires three yards of 36-inch material. Price 10 cents.



No. 2574-2575—Ladies' Costume. Waist 2574 cut in seven sizes, 34, 36, 38, 40, 42, 44 and 46 inches bust measure. Skirt 2575 cut in seven sizes, 22, 24, 26, 28, 30, 32 and 34 inches waist measure. A medium size will require 3½ yards for the skirt, three yards for the tunic and 3½ yards for the waist, of 27-inch material. The skirt measures two yards at the foot. Two separate patterns, 10 cents for each pattern.

No. 2339—Ladies' Dress. Cut in seven sizes, 34, 36, 38, 40, 42, 44 and 46 inches bust measure. Size 38 requires 7½ yards of 36-inch material. Skirt measures about three yards at the foot with plaits drawn out. Price 10 cents.

No. 2579—Girls' Dress. Cut in four sizes, 4, 6, 8 and 10 years. Size six will require 2½ yards of 36-inch material. Price 10 cents.

No. 2564—Girls' Dress. Cut in four sizes, 8, 10, 12 and 14 years. Size 10 will require 3½ yards of 36-inch material. Price 10 cents.



No. 2576—Ladies' Apron. Cut in four sizes: Small 32-34; medium 36-38; large 40-42, and extra large 44-46 inches bust measure. Size medium will require 4½ yards of 36-inch material. Price 10 cents.



No. 2560—Ladies' Dress. Cut in six sizes, 34, 36, 38, 40, 42 and 44 inches bust measure. Size 38 will require seven yards of 36-inch material. The skirt measures about two yards at the foot. Price 10 cents.

Program for Boys' and Girls' Clubs

(Continued from page 235).

tion. Club boys and girls should not lose sight of the fact that they are demonstrators and almost every meeting should include a short simple demonstration of some point or principle important to the work. For example, the potato club boys can demonstrate at one of their early meetings how to treat seed potatoes for scab and black scurf, live stock boys can demonstrate mixing of feeds, making of feeders, rope halters, etc. Other demonstrations will suggest themselves to the leaders and members of the various clubs.

The club songs should be learned and sung at all club meetings. The regular meeting of business and study should be followed whenever possible by the play program. Here new group games can be taught. Volley ball or indoor baseball teams can be developed and the play side of the boys and girls can find expression along the right lines.

The regular club meetings can be

interspersed with social meetings, inspection trip meetings and occasional perhaps some musical and dramatic programs. Such an arrangement of programs will do much to keep up the interest in club work and insure a high percentage of finishers. It will do much, moreover, to furnish a social influence in the community that may make things more interesting to boys and girls.

The following is a typical program for a meeting of a bean club.

1. Meeting called to order by president of club.
2. Roll call by secretary of club.
3. Response to roll call by giving germination test of seed beans used.
4. Old or unfinished business.
5. Reports of committees.
6. New business.
7. Talk, "Disease Free Seed," by county agricultural agent.
9. Demonstration, "Selecting Clean Seed Beans," by club member.
9. Adjournment for play and games.



The Demonstration Should Form a Part of Every Regular Club Meeting.

The Old Leather Man

By G. W. TUTTLE

BOYS and girls, did you ever hear the story of the Old Leather Man? Come to the fire, draw up your chairs where it is warm and comfortable, and I will tell you of a man who must have been very warm and uncomfortable in the hot days of summer and very cold and uncomfortable in the cold days of winter.

He was called the Old Leather Man because he was clothed entirely in leather. Great clumsy boots he wore—they looked as if it would tire a man out to carry them around. His garments were of leather; great, coarse pieces of leather sewed together—talk about home-made clothing, he surely wore it. His clothing reminded me of nothing so much as of a shanty that I once saw that was made of coal oil cans, there were so many pieces of leather patched together.

He was short and stout. He walked very fast and he must have been an unusually strong man. Had you met him in some lonely spot you might have thought him some monster that was supposed to be extinct. As a matter of fact, he was quite harmless.

He followed a regular route through portions of both New York and Connecticut, and day after day, as regularly as the sun arose and set, he passed along the old highways. His route was said to be three hundred and sixty miles in length. Over and over again, year after year, through heat and through snow, he tramped over his regular route. He was everywhere referred to as "The Old Leather Man."

He depended for food entirely upon what was given him, and he had his regular stopping places. He was such a curiosity that it was easy to obtain

what food he needed. He was easily offended and if displeased at anything that was said or done he would never stop again at the same place. He was French, and either he could not, or he would not, speak much English. At one place in my home town, where he had been in the habit of stopping, the farmer happened to be feeling ill-natured one day when he called. "What do you want; something to eat?" he snapped out.

The Old Leather Man nodded his head, but said nothing.

"Well, if you want something to eat, why don't you ask for it?" said the farmer.

Without a word the Old Leather Man marched out of the gate, never to stop there again. He had plenty of lunch counters along his route and would not tarry where he was not welcome.

Unless delayed by heavy storms he was very regular in his rounds, seldom varying a single day in the time of his appearing, and often only from one to two hours. If we said: "It is time for the Old Leather Man to pass this afternoon," we were seldom disappointed. "Here he comes!" some boy would say; and sure enough, there he would come—great, heavy, clumsy boots, and awkward clothing of leather. Why, I often wondered how he could walk at all. When the day was cold we would try to coax him in by the fire, but in vain, he would trudge steadily on through snow and through cold.

He had huts and caves in the woods, where he stopped when night overtook him. For years and years he traveled his weary rounds. At last he was found dead in one of his rude shelters in the woods.

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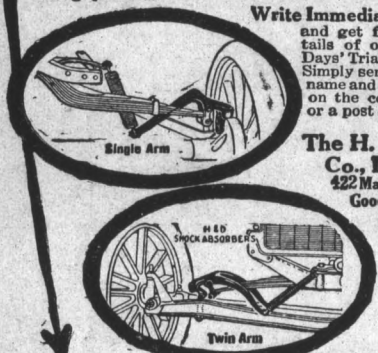
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This book is filled with startling price offers. These are war times. We must do unusual things. So I am hacking down prices clean to the bone! This book will show you how to get unbeatable quality in Kalamazoo Direct to You Stoves, Ranges and Furnaces, Gas Ranges, Oil Ranges and Kitchen Cabinets at wholesale factory prices.

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As a Human Liniment and Antiseptic for external use it is invaluable.

Every bottle of Caustic Balsam sold is warranted to give satisfaction. Price \$1.50 per bottle. Sold by druggists, or sent by parcel post, with full directions for its use. Send for descriptive circulars, testimonials, etc. Address The Lawrence-Williams Co., Cleveland, O.

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Kirby's Poultry Talks

IT is not too early to plan on the purchase of cockerels if any will be needed for improving the quality of the flock next year. At the present price of feed only a limited number of cockerels will be held over for breeding stock and many poultrymen who wait until late in the winter may find it difficult to purchase first-class cockerels at reasonable prices.

While recently motoring across the state many fine flocks of geese were noted and it seems that farmers are appreciating the chances to make money with geese if they have plenty of pasture. The goose has much to recommend it as a producer of fine food and the farmer with pasture can easily accommodate a nice flock of breeding geese. Many farmers will now have breeding stock for sale and this is an opportunity to buy foundation stock. Breeders of geese will find that it pays to advertise surplus stock in order to stimulate the production of these valuable birds. Most of the flocks seem to be Toulouse geese which proves that this breed is giving satisfaction.

When city buyers are putting down eggs in waterglass the farmer can often sell many eggs at a slight premium if they are clean, infertile and suitable for preserving for winter use. The farmer can also inform city customers as to the time that the eggs will be available. Many buyers wait too long to put down eggs in waterglass and then have to use eggs that are much higher-priced than they are earlier in the season. This familiar waterglass method of preserving eggs is giving a great deal of satisfaction and it should be more generally used by city buyers and farmers. There is no use in predicting the price of eggs next winter, but all know that quality eggs will be scarce at any price and there is considerable quality to clean, infertile eggs stored in the waterglass solution.

Some farmers neglect the growing of ducks and geese because they are not located near a pond of water. The birds enjoy the opportunity of frequent bathing, the exercise benefits them and they obtain considerable food from the water and along the shore, but the pond is not necessary to their well-being and both ducks and geese can be raised successfully and profitably without it.

When shipping market poultry it is good judgment to make some inquiry concerning the firm that is to receive the consignment. It pays to locate a reliable firm and then give them the business unless they prove unable to handle it to the best advantage. Frequent changes involve an unnecessary risk. The commission firm that deals honestly with the neighbors, advertises in reliable papers, and is prompt in all its dealings, will in all probability be as honest with one man as it is with another and dealings with such a firm will be satisfactory.

Never kill a hen for home use without making an effort to kill one not quite as good as the others as a breeder. In that way the flock receives a certain amount of culling that will help in the increasing of profits. One hen will have yellow legs and an abundance of fat, while another will have faded legs and a weight that indicates just the right laying condition. Of course, there is no doubt as to which bird should go into the kettle and which should continue with the flock.

There is nothing more disgusting than to see a lot of old, scaly-legged roosters running with a flock of hens. Sell them off and keep good healthy males.

There is nothing that fits into the regular farm crops and live stock better than a well-managed flock of poultry.

Dr. LeGear's Poultry Powder



Shortens the moult!

Long moulting weakens hens and loses eggs. Act promptly now and hasten Nature's course. Dr. LeGear's Poultry Powder positively will cut down the time required for moulting, strengthen hens' systems, and help you to get early layers, and

Make more Egg-Money this winter

Experiment Station tests and Dr. LeGear's years of actual practice, show that hens need a daily tonic during the moult. It gets them through the moult more quickly, counteracts the strain of moulting, and puts them in good condition to lay.

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Buy a package from your dealer. If you do not believe that it has benefited your poultry, and made more profits for you, I authorize the dealer to refund your money.

Dr. LeGear's Stock Powders
produce perfect digestion, drive out worms, increase growth and production.

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cleanses, dries and heals sores and cuts quickly. Handy to use, in sifter top cans.

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Free sample—ask your dealer

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Barred Rocks—EGGS FROM STRAIN with records to 290 eggs a year: \$2 per 15. Delivered by parcel post, prepaid. Circular free. FRED ASTLING, Constantine, Mich.

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Pine Crest White Orpington greatest egg producers—hens and young stock, buy now for next winter. Mrs. WILLIS HOUGH, Pine Crest, Royal Oak, Mich.

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White Wyandotte eggs for hatching also baby-chick out of choice stock; send for a 1918 circular. 1 DAVID RAY, 709 Norris St., Ypsilanti, Michigan.

Pullets Wanted, Prefer Leghorns. F. J. BARRETT, R. F. D., Milford, Mich.

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HOLSTEINS of quality. Bull calves from dams with records high as 31 lbs. in 7 days. Also collic puppies. E. A. HARDY, Rochester, Mich.

For Sale Registered Jersey Bulls ready for service \$75.00 each. NOTTEN FARM, Grass Lake, Mich.

For Sale Registered Jersey Cattle of both sex. Smith & Parker, R. 4, Howell, Mich.

THE Wildwood Jersey Farm offers for sale choice bull calves for fall service from R. of M. daughters of Majesty's Wonder by Majesty's Oxford Fox. Herd tuberculin tested. When looking for a sire to head your herd, get a Majesty. Alvin Baldwin, Capac, Mich.

Hillside Farm Jerseys, offer 3 yearling bulls, backed by tested dams, and sired by a double grandson of Royal Majesty, first prize & junior champion at Mich. State Fair, good individuals. C. & O. Deake, Ypsilanti, Mich.

BROOKWATER FARM
2 Bulls
Ready for Service
Sired by butter bred bulls and out of high testing dams.
The Producing Kind
with Jersey type and capacity. Prices reasonable. Also a few bred gilts (Durocs) and boars.
Brookwater Farm,
Herbert W. Mumford, Owner,
J. Bruce Henderson, Mgr.
Ann Arbor, Mich.
R. 7.

Mendale Interested Owl No. 111311 heads my herd. bull calves from this great sire and out of R. of M. dams for sale. C. B. WEHNER, Allegan, Mich.

Lillie Farmstead Jersey Cattle. Several heifers bred. Lto freshen next fall. Also a few heifer and bull calves of choice breeding. Colon C. Lillie, Coopersville, Mich.

Maple Lane R. of M. Jersey Herd. For sale one four-year-old cow, also bull calves and heifer calves sired by a grandson of the Fogis 99th of Hood Farm. IRVIN FOX, R. 3, Allegan, Mich.

HEREFORDS

3 Extra nice yearling heifers, 3 extra nice heifer calves old enough to wean, 4 extra nice bulls from 8 to 12 mos old not related to heifers. Prince Donald, Farmer and Perfection Fairfax breeding. If interested come and see them.
ALLEN BROS., Paw Paw, Mich.

Herefords Polled and Horned blood lines embrace Fairfax. Polled Perfection and Prime Lad 9th breeding. Prices reas nable. COLE & GARDNER, Hudson, Mich.

Additional Stock Ads on Pages 244 and 245

Shorten the Molt— Hurry the Pullets

Get your birds to laying early. Keep them at it all winter. Make bigger profits than ever before. Right now, today, you should use

Pratts Poultry Regulator

The Guaranteed Poultry Tonic and Conditioner

It shortens the molting period by weeks, prevents loss during this critical period, makes the hens lay early and often. It brings the pullets to early laying maturity, strengthens and invigorates them for a hard winter's work.

Pratts Poultry Regulator will make your layers begin profitable egg-production weeks earlier than they otherwise would, keep them laying heavily and steadily during the period of high prices, protect their health, enable them to earn big money for you. Make the test at our risk.

Our dealer in your town has instructions to supply you with Pratts Preparations under our square-deal guarantee—"Your money back if YOU are not satisfied"—the guarantee that has stood for nearly 50 years.

Write for our New Poultry Book—FREE

PRATT FOOD COMPANY
Philadelphia Chicago Toronto

pratts

An Organization for Michigan Farmers

More than \$1,000,000.00 of business written the first year. This proves the demand for our Company.

More than \$120,000.00 of first real estate mortgages on deposit with the state treasurer which proves our responsibility.

Your liability can be protected by our reliability

This is no time to take long chances. In these critical times "safety first" should be the watchword.

Cooperate with us and insure your livestock against death from accident and disease and thus save more than \$3,000,000.00 annually to the farmers of Michigan and to society.

Consult our local agent in your vicinity.

MICHIGAN LIVE STOCK INSURANCE COMPANY

Colon C. Lillie, Pres.
319 Widdicombe Bldg., Grand Rapids, Mich.

Harmon J. Wells, Sec.-Treas.
Graebner Bldg., Saginaw, W. S., Mich.

BREEDERS' DIRECTORY.

Change of Copy or Cancellations must reach us
Ten Days before date of publication.

CATTLE.

Wildwood Farms

Breeders of Best Strains of
Aberdeen Angus Cattle
and **Duroc Jersey Hogs**

Several young bull calves on hand, three of which are of serviceable age, out of Black Monarch III, three times Grand Champion, Michigan State Fair. Also several AI Brood sows. Will be glad to correspond with you by letter regarding stock. Write

SIDNEY SMITH, Supt.

Wildwood Farms, Orion, Michigan
W. E. SCRIPPS, Proprietor.

WOODCOTE ANGUS

TROJAN-ERICAS & BLACKBIRDS (BLACKCAPS) only. The most fashionable strains of the breed. Great care given to matings and pedigrees. Every animal BRED IN THE PURPLE. Breeders and feeders of many INTERNATIONAL WINNERS. WOODCOTE STOCK FARM, Ionia, Mich.

Cloverly Angus Good quality bulls of serviceable age and younger. Inspection invited. Geo. Hathaway and Son, Ovid, Mich.

THE GUERNSEY is popular among the dairy-men who appreciate that Economical production, richness and fine flavor of products lead to larger profits. Try Guernseys and be satisfied.

Guernsey Cattle Club,
Box I Peterboro, N.H.

Registered Guernseys

A fine two year old commencing to spring, will cost you just \$200 don't wait on this one she is right. J. M. WILLIAMS, No. Adams, Mich.

GUERNSEYS must reduce herd, so offer a few choice females of Glenwood breeding also bulls, all stock of A. R. breeding, herd tuberculosis tested. T. Y. HICKS, Battle Creek, Mich.

Guernseys 45 Registered head, all th. tested. Nora's May King, son of Imp. May Rose King, heads our herd, 19 of his half sisters sold averaging \$1950 each. His bull calves are booked ahead at reasonable prices. Avondale Stock Farm, Wayne, Mich.

For Sale Registered Guernsey bull calves May Rose breeding. R. 2, Holland, Mich.

GUERNSEYS—REGISTERED BULL CALVES Containing blood of world champions. HICKS' GUERNSEY FARM, Saginaw, W. S. Mich.

FOR SALE Guernsey Females of all ages. Choice breeding. St. AUSTELL FARMS, R. 3, Jackson, Mich.

For Sale Guernseys: 15 high grade cows and heifers. Reg. May Rose bull 4 mo. old and reg. cows, tuberculosis tested. GILMORE BROS., Camden, Mich.

A Good Note accepted in payment of finely bred registered Holstein bull calves. Quality of the best, and at prices within reach of all. Write, GEO. D. OLARKE, Vassar, Mich.

I Always Have Holsteins To Sell

If wanting Registered cattle write me your wants before placing your order elsewhere.

L. E. CONNELL, Fayette, Ohio

Marketing Fresh Eggs

FRESH laid eggs have a market value greater than eggs from the cold storage warehouses. They are worth more than eggs put down in water-glass. Too frequently the farmer knows that his fresh eggs are worth a premium and yet he receives the same price that city consumers are paying for storage stock. It is not necessary for a farmer to accept a price for his fresh eggs no greater than the price paid for goods not of the same quality. It is being done because of carelessness in saving and marketing the eggs.

The country egg buyer who exchanges groceries and merchandise for eggs is not able to pay the price that fresh eggs should command. In the first place too many farmers keep their male birds with the hens during the hot weather. The result is a poor quality of eggs.

Next, we come to the practice of allowing the hens to hide their nests all over the farm. At certain intervals there is a general hunt for eggs and then the good and the bad are sold together. Eggs are placed in one pail or basket and the top eggs are used every day in home cooking. The eggs in the bottom of the pail are taken out each week and possibly not that often. The egg buyer knows that his purchases from farmers will contain a certain number of poor quality eggs so he strikes an average and pays a price allowing for the inferior stock which he will undoubtedly receive. The farmer producing fresh eggs is forced to suffer because of this undesirable competition.

The best plan is to keep enough fowls to make egg marketing worthy of attention. Then, produce infertile eggs except during the hatching season. Ship the eggs to a reliable dealer who is willing to pay for eggs for a select trade if you have enough eggs. If the production is too small for frequent express shipments, it pays to make arrangements with a local grocer who is willing to pay a fair price for quality eggs. If this does not seem best, try the private trade and try and work up a business with buyers who are willing to pay a slight premium over the market price for eggs that are fresh laid and absolutely guaranteed to be fresh.

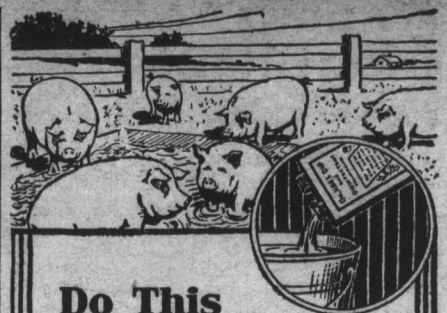
It is unfair to the producer of good fresh eggs to compel him to sell at the same price paid for mixed stock and that is what happens to the farmer who makes no effort to obtain his due credit for the effort necessary to produce eggs that are right in every way. At first thought, the difference of a few cents in the price of a dozen eggs does not seem worth worrying about, but when that is multiplied by several thousand during the course of a year, the result is surprising. Little things count up in every business and it seems as if this is more true in the poultry business than in any other line.

Ingham Co. G. K. RILEY.

LET THE BOY DO IT.

After all, the natural appetite of birds under normal conditions, is a pretty safe guide to follow in feeding the flock. Where the fowls have an opportunity to select their own foods at will they are certain to balance their rations to their needs better than the ordinarily informed feeder will do. Because of this any bright boy who does not pretend to know too much about the feeding question will often get better results than one who has gotten a smattering of learning about the principles of feeding.

The cost of securing well-bred poultry is so comparatively small that there is no excuse for keeping a lot of mongrel hens.



Do This For Your Hogs

Provide a wallow close to the feeding grounds to which add Dr. Hess Dip and Disinfectant. The DIP will kill the lice and cleanse the skin, and as the hogs pass back and forth from the wallow to the feed trough, the DRIP will destroy the disease germs and the worms that pollute the ground. That will mean a clean, healthy skin, freedom from lice, a safeguard against disease and larger, better porkers. Also sprinkle freely about poultry houses, pens and stables to destroy germs and avoid contagious diseases. An excellent disinfectant for the home.

Dr. HESS & CLARK
Ashland Ohio

DR. HESS DIP and DISINFECTANT

DEATH TO HEAVES! NEWTON'S

STANDARD REMEDY Cures HEAVES by correcting the cause—Indigestion. Prevents Colic, Staggers, etc. Best Conditioner and Worm Expeller. 25 years sale. Three large cans guaranteed to cure Heaves or money refunded. The 1st or 2nd can often cures. \$6.00 and \$1.10 per can at dealers or prepaid by parcel post. Booklet free.

THE NEWTON REMEDY COMPANY, Toledo, Ohio

CATTLE

"Top-Notch" HOLSTEINS

The young bulls we have for sale are backed up by many generations of large producers. Buy one of these bulls, and give your herd a "push". Full descriptions, prices, etc. on request.

McPherson Farms Co., Howell, Mich.

\$50 Liberty Bond gets 1 mo. old grandson of Pontiac Maid 301-5 lb. Other granddam sister to grandsire of 42 lb. 4 yr. Herd free tuber. Apr. adv. for females. Terms, M. L. McLaulin, Redford, Mich.

The Traverse Herd

This is the chance you have been looking for. We will sell a few, good A. R. O. cows. One with 27.18 in 7 and 110.86 in 30 days. Three others above 24 lbs. Come and see them or write for descriptions and prices but hurry for they will go quickly. Also a few bull calves for sale, the kind you will be proud to own. Pedigrees and prices on application. State age desired. TRAVERSE CITY STATE HOSPITAL, Traverse City, Michigan.

Want Yearly Records?

Our new sire has four sisters whose semi-official records are 677, 742, 913 and 946 pounds of butter in one year respectively at 2 to 3 years of age. His dam is a daughter of Friend Hengerveld De Kol Butter Boy, four of whose daughters have records over 1000 pounds and she is also a granddaughter of Pontiac Angie Korndyke, with six daughters above 1000 pounds of butter in one year.

Peaceland Stock Farm, Three Rivers, Mich.
C. L. Brody, Owner Port Huron, Mich.
Charles Peters, Herdsman

Only 3 Cows Left

and two six months old bull calves. \$50.00 check, or Liberty Bond gives you your choice of either calf. MARTIN MOON, Brunswick, Mich.

Holsteins: Bull calf born Oct. 6. A nice individual well grown in good condition. His seven nearest dams average butter 7 days 23.36 lbs. milk 533 lbs. Dam record 18 lbs at 2 1/4 yrs. W. B. Reader, Howell, Mich.

DO YOU WANT

A Holstein Bull calf ready for service with exceptional breeding? Write **HILLCREST FARM,** Kalamazoo, Mich.

If you own, or are interested in Pure Bred **HOLSTEINS** you will find it to your interest to join this Association of more than 11,000 Holstein Breeders.



The Holstein-Friesian Association of America, Box 164, Brattleboro, Vt.

Holsteins For Sale Extra Fine Breeding

5 Grand Daughters of King of the Pontiacs. 9 Grand Daughters of Spring Farm King Pontiac 6th. All above are from 7 to 14 months old. The best 3 year son of King of the Pontiacs also for sale.

GEO. S. BIGELOW,
Breedsville, Michigan

HOMESTEAD FARMS

A Federation of Interests

Holsteins: From a herd of 50 Holsteins headed by the Bull King Zerna Alcantara Pontiac, son of King Segs Pontiac Alcantara, the \$50,000 Bull, we offer a number of bred cows and heifers, younger heifers and calves, and young bulls.

One particularly high class young bull now ready for service. If you want Holsteins of any class, will you please write to us for descriptions and photographs? Every animal guaranteed. BLOOMINGDALE FARMS, Bloomingdale, Mich.

CLUNY STOCK FARM

100--REGISTERED HOLSTEINS--100 When you need a herd sire remember that we have one of the best herds in Michigan, kept under strict sanitary conditions. Every individual over 6 mos. old regularly tuberculin tested. We have size, quality, and production records backed by the best strains of breeding.

Write us your wants. R. BRUCE McPHERSON, Howell, Mich.

Jack Bill
Winn--Wood Herd
Registered Holsteins
Sire in Service
Flint Maplecrest Boy

Who is bred for real production his sire Maplecrest Korndyke Hengerveld is one of the best bred long distance bulls in the world. He or his dam are brother or sister to six cows with records above 1,200 lbs. of butter in one year and ten more above 1,000 lbs. In a year Flint Maplecrest Boy's dam is Gluck Vassar Bell 30.57 lbs. of butter in 7 days, 121 lbs. in 30 days. Butter fat test 5.27. Is there a reason why Flint Maplecrest Boy is not one of Michigan's greatest young sires. None of his females are for sale until after we test them. But we have 10 of his bull calves from 2 to 9 months old, with A. R. O. dams which we now offer for sale at prices any dairy farmer can afford to pay. Just tell us the kind of a bull you want.

JOHN H. WINN, Inc.
Lock Box 249, Roscommon, Mich.

OAK Leaf Farm. Herd sire Lenawee Pontiac Calamity King offer Registered Holstein bull calves from A. R. O. cows and the above sire whose dam holds the milk and butter record in the state of Ind. 7 days milk 796.3, butter \$2.51-315 days milk 23782.3, butter 926.775. E. H. GEARHART & SON, R. 4, Marcellus, Mich.

Parham's Pedigree Stock Farm offers Reg. Holstein cattle, Chester White Swine, extra bargains in calves and fall pigs. Bulls half price. R. B. PARHAM, Bronson, Mich.

The Pontiac Herd

"Where the Champions come from"

Offer Bull Calves sired by sons of Pontiac Korndyke, Hengerveld DeKol, Pontiac Dutchland, or Admiral Walker Pietertje.

Do you want a Pontiac in your herd? Pontiac State Hospital, Pontiac, Mich.

Veterinary.

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

Contagious Abortion—Shy Breeder.
—I wish you would tell me what can be done for Jersey cow that has had three calves, two since I owned her. I was obliged to secure the services of a Vet. both times to remove afterbirth. At four months she lost her calf, perhaps result of accident. Is her ailment the result of weakness? I consider her a valuable cow as she never goes dry. She is in fine condition. Subscriber, Schoolcraft, Mich.—You fail to state whether she comes in heat or not; if so dissolve ¼ lb. cooking soda in half gallon of tepid water and wash out vagina, using fountain syringe three hours before she is mated. If she fails to come in heat, keep right on milking her as it will prove profitable to do so.

Swollen Lip.—Have a mare that is quite aged, whose under lip is swollen, drops some and is very itchy. Our local Vet. gave us a loation to apply which seemed to relieve her, but as he has gone to war we are unable to buy any more of it. I. M., Charlevoix, Mich.—Perhaps your mare is suffering from the poisonous effects of a bee sting, or may have injured lip. Dissolve 1 oz. of acetate of lead in one quart of cold water and wet lip twice a day. Also apply one part bichloride of mercury and 500 parts of water once or twice a day. Gentle hand-rubbing will have a good effect; also occasionally apply vaseline.

Tumor on Dog's Head.—I have a dog that has a large bunch on head which has the appearance of a tumor or a large wart. Whatever this bunch is it seems to be gradually growing and I would like to know what to apply in order to check its growth or remove the bunch. L. C. K., Fennville, Mich.—It makes no particular difference whether the bunch is a tumor or wart—it should be cut out, then apply one part powdered alum and nine parts boric acid to wound twice a day.

Infectious Abortion—Breeding Question.—I have a herd of twenty registered Red Polled cows, fourteen of which have dropped calves since January 1, 1918, and seven of them have been dropped from two weeks to three months before calving time. These seven cows have not yet been bred. I thought I would dispose of them for beef when they are in proper condition. However, it looks as though this plan, if followed out, would soon close out the herd. The cows are now in fair flesh and give a good mess of milk. What would you advise me to do? C. E. C., Whitehall, Mich.—Doubtless the cows that calf too early suffer from infectious abortion; however, it is well to keep in mind that even this serious and almost incurable ailment has a tendency to die out in a herd and if I were you, I should breed the cows again, and perhaps a majority of them might carry their calves to full gestation period. By disposing of these pedigreed cows for beef, you will sustain a financial loss. Should you go into the market and replace them with other pedigreed stock, you can have little assurance that they are not similarly diseased. All things considered, I advise you to keep your good cows and continue milking them for they are doubtless paying their board. If any of these cows have a vaginal discharge wash out vagina with a solution made by dissolving thirty grains of permanganate of potash in a gallon of clean tepid water that has previously been boiled. These applications should be with a fountain syringe two or three times a week. But discontinue as soon as the cow is bred. Your cow stable should be cleaned and kept clean. The hind parts of cows that have any vaginal discharge should be sponged off with one part bichloride mercury and 500 parts of water once or twice a day.

Rheumatism.—I have a flock of about forty Barred Rock hens and quite a lot of them seem to get lame in one leg. These fowls are fed barley and corn and I would like to know what is the cause and what can be done to relieve them? F. S., Brown City, Mich.—First of all, your chickens should be kept in a dry, clean coop. Perhaps it is too damp, or there may be too much draft. Give each hen a grain of sodium salicylate at a dose twice a day. If the joints are affected which perhaps they are, paint them with tincture iodine three times a week. I fully believe with this treatment, and good care, your fowls will soon get well.

DISPERSION SALE

OF

Registered Holsteins

At Jackson, Mich.

Wednesday, Sept. 25, 1918

Sixty young, healthy females in dairy working condition, bred to a thirty-eight pound grandson of Pontiac Lass.

The herd bull, King Korndyke Oriskany Pontiac, will also be sold. He is sired by a son of Pontiac Lass, the 44 lb. cow, out of a 31 lb. dam, whose milk tested 5.52, and who has three A. R. O. daughters.

My son is in France and my health will not permit me to continue.

One of the oldest and best herds in Michigan.

No old cows, all healthy and tuberculin tested.

Many A. R. O. records.

BOARDMAN FARMS,
John W. Boardman, Prop.

Dispersion Sale

OF

35 Head Registered Holsteins

WEDNESDAY, SEPT. 18, 1918

15 cows, 5 yearlings, 10 heifers calves, 4 bull calves. The herd bull King Segis Kaastra Pietertje No. 180425, will also be sold. Sale will take place at Webross Stop on D. U. R. Sale on 1 o'clock.

E. A. ROSS,

IMLAY CITY,

MICHIGAN

BIDWELL SHORTHORNS

For Beef and Milk.

Registered bulls, cows and heifers—Good Scotch and Scotch-Topped for sale. In prime condition. Modern sanitary equipment. Farm 10 minutes from N. Y. C. depot, 1 hour from Toledo, Ohio. Automobile meets all trains. Write

BIDWELL STOCK FARM,
Box B, Tecumseh, Mich.

Francisco Farm Shorthorns

We maintain one of Michigan's good herds of Scotch and Scotch-Topped cattle. They are well bred, properly handled and price reasonable. Come and see; we like to show them.

P. P. POPE, Mt. Pleasant, Mich.

The Kent Co. Shorthorn Breeders Association are offering some choice animals at reasonable prices. Write your wants.

L. H. LEONARD, Sec., Caledonia, Mich.

Dairybred Shorthorns of best Bates Strains, young stock of both sexes for sale.

J. B. HUMMEL, Mason, Mich.

SHORTHORNS

Cows, heifers & young bulls for sale at farmers prices; herd catalog mailed free. Horrieton Farms, Hart, Mich.

Shorthorn Cattle of both Sex for Sale

W. W. KNAPP, Howell, Michigan.

Shorthorn Seven Scotch and Scotch Topped bulls for sale. Price reasonable.

W. B. McQUILLAN, R. 7, Howell, Mich.

Attention Michigan Breeders!

IN reply to several complaints regarding Express Companies refusing to accept for shipment animals weighing more than 500 pounds, we have taken the matter up with the officials and find that the ruling does not apply to breeding stock. If your agent refuses to accept your animals for shipment, notify us giving name of station where shipment was refused.

THE MICHIGAN FARMER.

Richland Farm Shorthorns

Sires in Service: Fair Acres Goods and IMP. Lorne-Michigans Grand Champion Bull. Attend the Shorthorn Sale at Lansing Oct. 9th. We invite you to inspect the cows and heifers we have listed in this sale.

C. H. FRESCOTT & SON,
Herds at Prescott, Mich. Office at Tawas City, Mich.

For Sale Three reg. Shorthorn bulls 10 and 11 mos. old, red, little white. Bates breeding, will crate and ship, satisfaction guaranteed or money refunded, write or come and see.

Wm. D. McMULLEN, R. 1, Adrian, Mich.

Shorthorn Bulls ready for service of the choicest breeding. Write me you want.

A. A. PATTULLO, R. 4, Deckerville, Mich.

HOCS

Registered Berkshire gilts and sows for fall farrowing, 3 boars and spring pigs, either sex.

CHASE STOCK FARM, R. 1, Marlette, Mich.

Berkshires—Registered Pigs of both sex, fine quality.

FAIRMAN FARM, Plymouth, Mich.

A Few good, sturdy, young, Berkshire Boars for sale at a reasonable price.

McNAMARA FARMS, St. Ignace, Mich.

Big Growthy Berkshire Pigs. Both sexes, large and fine.

W. H. Every, Manchester, Mich.

Durocs. Choice spring pigs out of selected sows and sired by our best herd boars. They are of the big type, strong boned, smooth and of excellent quality and include some of the most popular blood lines such as Orion Cherry King, Top Col. Defender, Brookwater etc. Prices reasonable. The Jennings Farms, Bailey, Mich.

DUROC BOARS

Big long, tall, growthy boars. The kind that will add size and growth to your herd. Biggest March farrowed pigs in country. Weigh 200 lbs. not fat.

NEWTON BARNHART, St. Johns, Mich.

DUROC Jersey Spring boars for sale. Good breeding and large bone. Prices and descriptions on request.

J. D. CRANE & SON, Plainwell, Mich.

Duroc Jersey spring boars sired by Orion Cherry King Cal. Write for prices and description.

W. C. TAYLOR, Milan, Mich.

DUROCS April and May pigs of both sexes sired by a Defender bred boar. For prices etc., write

WELLS FARISH & SONS, Allendale, Mich.

DUROC JERSEYS

E. D. HEYDENBERG, Wayland, Mich.

Choice Duroc Jersey Gilts For Sale.

CAREY U. EDMONDS, Hastings, Mich.

Duroc Jersey's—Fall boars of the large heavy boned type. Gilts bred to Junior Champion boar for June farrow, also Spring pigs pairs not akin.

F. J. DRODT, R. 1, Monroe, Mich.

Duroc Jersey's for sale. spring & fall pigs of both sex also Shorthorn bulls milking strain.

CHAS. BRAY, Okemos, Mich.

Chester Whites, spring pigs either sex, trios not akin from strictly big type mature stock at reasonable prices.

F. W. Alexander, Vassar, Mich.

Crandell's Big Type O. I. C's Champion herd everywhere shown in 1917. Herd headed by five champion boars. Our sows won Senior, Junior and Grand Champion prizes at Illinois, Missouri, Ohio and Michigan 1917. Special prices on all spring pigs. Get our catalog it is free.

Crandell's Prize Hogs, Cass City, Mich.

LAST fall gilts all sold, have a good lot of last spring litters from 3 sires good growthy stock. Farm ½ mile west of depot, Citizens Phone 124.

OTTO B. SCHULZE, Nashville, Mich.

BRED GILTS and SERVICEABLE BOARS

J. CARL JEWETT, Mason, Mich.

O. I. C.'s a few choice Apr. and May pigs either sex and 4 reg. Holstein heifers.

CLOVER LEAF STOCK FARM, Monroe, Mich.

O. I. C. & Chester White Swine

Strictly Big Type with QUALITY. Have a few spring pigs either sex for sale. They are of the right stamp, good enough to be shipped C. O. D.

NEWMAN'S STOCK FARM, R. 1, Marlette, Mich.

O. I. C. spring pigs for sale. I ship C. O. D. and guarantee to please.

F. C. BURGESS, R. 3, Mason, Mich.

L. S. P. C. all sold out, except the largest gilt raised last year, bred for June farrow.

H. O. SWARTZ, Schoolcraft, Mich.

Big type P. C. Big boned fellows from Iowa's greatest herds, special prices on spring boars and choice bred gilts.

E. J. MATHEWSON, Burr Oak, Mich.

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 4 months old. Write for my plan—More Money from Hogs.

G. B. BENJAMIN, R. F. D. 10, Portland, Michigan

Big Type Poland Chinas. Spring pigs for sale.

B. Healthy and growthy. From large litters. Prices right.

L. W. Barnes and Son, Byron, Mich.

LARGE Type P. C. Just 5 choice summer gilts bred for July and August farrow. Come and see them.

W. J. HAGELSHAW, Augusta, Mich.

Big Type P. C. Spring Boars for sale, also Hampshire Ram lambs.

A. A. WOOD & SON, Saline, Mich.

Additional Stock Ads. on Page 247

LATEST MARKET REPORTS

SECOND EDITION.

The markets in this edition were revised and corrected on Thursday afternoon, September 12.

WHEAT.

The federal government estimates our new crop of wheat at 988,000,000 bushels, compared with 651,000,000 bushels a year ago. Producers are marketing the grain liberally and as a result the visible supply continues to increase rapidly, 7,191,000 bushels being added this past week. A few permits for export are now being issued, which has improved the trade on foreign account. Millers, however, are well supplied and are therefore buying rather reluctantly. Prices on the local market are unchanged from last week as follows:

No. 2 red	\$2.19
No. 2 white	2.17
No. 2 mixed	2.17

CORN.

Corn values have advanced, with the upward turn greatest for lower grades. Very little of this grain is now moving, and the demands are such as to force prices upward, notwithstanding the big crop which is now rapidly maturing. Much of the area is well beyond danger of frost, although the northwestern states may suffer from the present cold wave. The American visible supply shows an increase of only 3,000 bushels. Canada is bidding for corn on this side. The government crop report for September gave firmness to the trade, and caused dealers who were short on this grain to lay orders for needed supplies. One year ago No. 3 corn sold on the local market at \$2.28 per bushel. Present quotations at Detroit are:

No. 3 corn	\$1.60
No. 3 yellow	1.65
No. 4 yellow	1.60
No. 5 yellow	1.55
No. 6 yellow	1.50

Chicago.—An advance is noted in the price at Chicago, with No. 3 yellow quoted at \$1.60@1.62; No. 4 yellow \$1.54@1.60; October corn \$1.57.

OATS.

The government report on this crop indicates a yield for the season of 1,477,000,000 bushels, compared with 1,587,000,000 bushels a year ago. This estimate shows an increase of 50,000,000 bushels over the estimate of August 1. Farmers are marketing oats quite freely, as the increase in the American visible supply last week totaled 2,583,000 bushels. Shipments of the grain are increasing, and millers are taking additional supplies, all of which gives the trade some of its old-time activity. One year ago standard oats sold on the local market at 63c per bushel. Present Detroit prices are as follows:

Standard	71
No. 3 white	70½
No. 4 white	69½

RYE.

While the local market quotes this grain as steady with a week ago, and the trading rules inactive here, northwestern markets are moving the grain at quotations slightly below these obtaining last week. Detroit's quotation for No. 2 rye is \$1.65 per bushel.

BARLEY.

There is very little barley moving, consequently no market of importance for the grain. A few sales were made here by sample at \$1.98@2.10 per cwt.

BEANS.

Trading in this department is inactive and easy, with the general trend of values in the downward direction, although at Detroit the quotation is unchanged from last week, \$9 per cwt. for immediate and prompt shipment. Trading in Chicago is confined to navy beans of sound quality, with Michigan stock, hand-picked, quoted at \$10.50@11 for fancy grades. In New York the demand is largely of a small jobbing character, and holders of pea beans are naming somewhat lower figures to secure buyers before the new crop gets on its way to market. The Michigan crop report indicates that the yield for the state will be about 69 per cent of an average crop.

FEEDS.

Prices are unchanged from those reported last week. In 100-lb. sacks to jobbers quotations are: Bran \$34.66;

middlings \$36.66; coarse corn meal \$68; cracked corn \$67.50; chop \$48 @55.

SEEDS.

This market is firm with holders not anxious to sell at the present prices, which are: Prime red clover and October \$20; alsike \$15.50; timothy \$4.90.

POTATOES.

The demand and movement of potatoes in the northern markets are generally reported as slow, with little change in prices. At Detroit Michigan round whites No. 1, \$4.10 per 150-lb. sack. At Pittsburgh jobbers are pay-

ing \$3.25@3.35 per cwt. for Cobblers sacked. At Cincinnati the Michigan round whites, U. S. Grade No. 1, are jobbing at \$2.50@2.60 per cwt and No. 2's at \$1.80. The condition of potatoes in Michigan, according to the September crop report, as compared with an average, is 69. One year ago the same authority reported the crop as 91 per cent of an average.

BUTTER.

Quotations are higher in practically all of our markets. The consumption keeps up in spite of the unusually high quotations. The quality of but-

ter coming to market is also better, which is some inducement for a more liberal use of the product. At Detroit fresh creamery firsts are selling to jobbers at 49½c and do extras at 50@50½c. In Chicago the market is higher with creamery ranging from 45@50c. The New York price is 49@54c and in Philadelphia jobbers pay 54c for extra western creamery.

HAY.

A further advance in prices for hay has had no effect in increasing the receipts. Prices at Detroit now are:

No. 1 timothy	\$27.50@28.00
Standard timothy	26.50@27.00
No. 1 mixed	23.50@24.00
No. 1 clover	22.50@23.00

Pittsburgh.—An excellent demand continues for the better grades of hay, prices, however, rule lower than last week. Quotations here are:

No. 1 timothy	\$30.00@30.50
No. 1 light mixed	28.00@29.00
No. 1 clover mxd	27.00@28.00
No. 1 clover	27.00@28.00

EGGS.

The scarcity of this product is becoming evident in the advancing prices. The trade does not have the support of large stocks in storage. At Detroit candled firsts in new cases from Michigan points are selling to jobbers at 45@46c, while current receipts bring 43c. In Chicago firsts are quoted at 42@43c, and ordinary firsts at 39@41c. The New York market is steady with western whites of fine to fancy grade jobbing at 64@68c, and browns at 54@56c. Western stock grading extra firsts bring \$14.40@14.70 per case in Philadelphia; do firsts \$13.80@14.10.

POULTRY.

The trade in poultry is quiet. Live broilers bring 30@31c for small and 32@33c for large. Hens 31@32c per lb; roosters 20@21c; geese 18@20c; ducks 28@30c; turkeys 24@25c.

DETROIT CITY MARKET

The Detroit city markets are doing a big volume of business. Potatoes are selling all the way from \$1.35@2 per bushel; apples \$1.25@2.25; pears at \$2.75@3; crab apples 5¢; tomatoes at \$1.75@2; cabbage 75¢ for white and \$1 for purple; onions \$2.25 per bushel. Hay is quoted at \$27@30 per ton, while eggs are bringing 60c.

NEWS OF THE WEEK.

(Continued from page 236.)

off the French coast.—Maine votes for state and national officers.—Treasury Department reports that one person out of every six in the country purchased third Liberty Loan bonds.—Anthracite coal production for last week shows substantial increase over previous week.

Tuesday, September 10.

The battle of St. Quentin is on, but it bids fair to be short, since the French have already moved rapidly from the Oise region and occupied positions on the Somme river and Crozat Canal which make the defense difficult, since the Allies are now approaching on three sides. British capture heights overlooking Gouzeaucourt fifteen miles north of St. Quentin.—Count Czernin, former minister of foreign affairs of Austria-Hungary, declares that an overwhelming majority of the German people desire peace.



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Live Stock Market Service

Reports for Thursday, September 12th

CHICAGO.

Cattle.

Receipts 16,500. Natives, good and better western steers strong; others steady.

Good to prime choice steers \$17@19.25; common and medium butchers \$10.25@17; heifers \$7.65@14.25; cows \$7.65@14; bologna bulls \$7.75@13.25; canners and cutters \$6.75@7.65; stockers and feeders, good \$11@14; stockers and feeders, common and medium \$8@11.

Hogs.

Receipts 17,500. Market slow, and about steady with yesterday's average. Big packers buying sparingly.

Tops \$20.75; heavy \$20.25@20.60; mixed and light \$20.40@20.70; packers' hogs \$19.50@20; medium and heavy \$19.60@20.15; light bacon hogs \$20.35@20.75; pigs, good to choice at \$18.75@19.25; roughs \$18.50@19.

Sheep and Lambs.

Receipts 31,000. Top lambs strong to higher; feeders slow; sheep and yearlings steady.

Choice to prime lambs \$17.50@18.10; medium and good lambs \$16@17.50; culls \$10@13.50; medium good and choice feeders \$16.25@17.25; medium and good yearlings \$13.25@13.75; wethers, medium and good at \$12@13; choice yearlings \$13.75@14.25.

BUFFALO.

On our market today pigs sold at \$21; heavy hogs \$21@21.75; yorkers \$21.40@21.50. The best lambs sold at \$18@18.25, and the calf trade was dull

Reports for Wednesday, September 11th

BUFFALO.

Cattle.

Receipts 10 cars; market unchanged; prime heavy steers \$17@17.75; best shipping steers \$16@17; medium shipping steers \$14.50@15.50; plain and coarse \$13@14.50; best yearlings, 950 to 1000 lbs \$15@16; light yearlings good quality \$13@14; best handy steers \$12.75@13.75; fair to good kinds \$11@12; handy steers and heifers, mixed \$10.50@11.50; western heifers \$10.50@11.75; best fat cows \$9.50@12.25; butchering cows \$8@9.50; cutters \$7@8; canners \$5.50@6.50; fancy bulls \$10.50@11.50; butchering bulls \$8.50@9.50; common bulls \$6.50@7.50; best feeders, 900 to 1000 lbs \$10@11; medium feeders \$8.50@9.50; stockers \$7.50@8.50; light common \$7@8; best milkers and springers \$100; mediums \$70@90; common \$50@70.

Hogs.

Receipts 10 cars; market is slightly higher; heavy \$20.75@21.10; yorkers at \$21.25@21.35; pigs \$20.50@20.75.

Sheep and Lambs.

Receipts two cars; market steady; top lambs \$17.75@17.80; yearlings \$12@12.50; wethers \$12@13.75; ewes at \$11.50@12.50.

Calves.

Receipts 1,500; market slow at \$7@19.50.

CHICAGO.

Cattle.

Bulk of native steers sold steady and trade was active on anything good but slow on common to medium offerings. Top was \$19.25 for a load of 1,390-lb. arrivals, equaling the record of the previous day when three loads made the price. The four record-making loads came from Illinois. Butcher stock was about steady after a firm

with the top at \$19. The cattle market was steady with yesterday.

DETROIT

Cattle.

Receipts 3,152. Market strong at last week's prices.

Best heavy steers \$12.00@14.00
Best handy wt bu strs.. 10.50@11.50
Mixed steers and heifers 8.50@ 9.00
Handy light butchers ... 8.00@ 8.50
Light butchers 7.50@ 8.25
Best cows 9.50@10.00
Butcher cows 7.50@ 8.50
Cutters 6.75@ 7.00
Canners 6.50
Best heavy bulls 9.00@ 9.50
Bologna bulls 8.00@ 8.50
Stock bulls 7.50@ 8.00
Feeders 9.00@10.00
Stockers 8.50@ 8.75
Milkers and springers... \$65@ 135

Veal Calves.

Receipts 637. Market steady.
Best \$19.00@19.50
Others 7.50@17.00

Sheep and Lambs.

Receipts 2,058. Market steady.
Best lambs \$16.50@16.65
Fair lambs 14.00@15.00
Light to common lambs.. 11.00@12.00
Yearlings 12.00@13.00
Fair to good sheep 10.00@11.00
Culls and common 5.50@ 8.00

Hogs.

Receipts 3,097. Market strong.
Pigs \$20.00
Mixed 20.40@20.55

start and bulls sold steady to strong. Stockers and feeders sold steady to 25c lower, the common kinds showing the decline. Calves were steady to 25c higher, closing strong with some at a record of \$19.25. Receipts were called 9,000, including 3,000 rangers, later offerings selling fully steady and in good demand, best available going at \$16.50 although earlier in the week a much better kind topped at \$17.50.

Hogs.

Hogs sold unevenly higher Wednesday, the bulk showing 25@50c advance over the previous day, offerings selling at the highest level on record. Compared with last week's close offerings showed 75c@1 advance. The prime offerings scored \$20.75 against a previous high mark of \$20.50 while many lots of heavy cleared at \$20.40@20.50, while nothing sold below \$19. Receipts were only 9,000 and practically nothing was left in first hands. Pigs were unevenly higher and best sold at \$19.25 although prime ones were nominally worth more.

Sheep.

Fat sheep and lambs were steady to strong, with a few range ewes a little higher. Feeding and breeding sheep went mostly steady although the bulk of feeding lambs declined 25c. Range lambs from Idaho made \$18 and natives, in the absence of prime stock, topped at \$17. Native ewes made \$11.50 and Idahos \$12. Montana wethers reached \$12.75. Idaho yearling breeding ewes scored \$18.40 and some Oregon feeding yearlings hit \$13.40. Bulk of the feeding lambs went at \$16.80@17. Quality of range lambs has fallen off and feeders bought many 25@50c lower last week's high time. Most of the fat grades of sheep and lambs showed little change with previous week's close. Receipts were 29,000 and the three-day supply totaled 101,200.

MOTOR TRUCK ROUTES.

ARRANGEMENTS have been made whereby rural motor-truck operators can cooperate with the Bureau of Markets in developing rural routes for farm products. Operators of truck routes who comply with certain requirements of the bureau will receive assistance in building up business in farm produce, and will be given a sign to display on their machines stating that they are cooperating with the Department of Agriculture. Truck operators can get details of the plan by writing to the Bureau of Markets, Washington, D. C.

MICHIGAN CROP REPORT.

Wheat.—The average estimated yield in the state is 13.60, in the southern counties 12.89, in the central counties 11.34, in the northern counties 13.63, and in the upper peninsula 21.26 bushels per acre. The quality as compared with an average per cent is 91 in the state, 90 in the southern counties, 86 in the central counties, 92 in the northern counties and 98 in the upper peninsula. The total number of bushels of wheat reported marketed by farmers in August at 71 mills is 199,062 and at 40 elevators and to grain dealers 86,548 or a total of 285,610 bushels. Of this amount 233,287 bushels were marketed in the southern four tiers of counties, 44,790 in the central counties and 7,533 in the northern counties and upper peninsula.

bushels of wheat marketed in August is 800,000. Ninety mills, elevators and grain dealers report no wheat marketed in August.

Oats.—The estimated yield in the state is 38.85, in the southern counties 40.30, in the central counties 38.86, in the northern counties 33.70 and in the upper peninsula 40.76 bushels per acre. The quality as compared with an average per cent is 100 in the state, 98 in the southern and central counties, 95 in the northern counties and 97 in the upper peninsula.

Rye.—The estimated average yield in the state is 15.47, in the southern counties 15.71, in the central counties 13.55, in the northern counties 13.76 and in the upper peninsula 22.25 bushels per acre.

Corn.—The condition of corn compared with an average per cent, is 71 in the state and central counties, 67 in the southern counties, 74 in the northern counties and 84 in the upper peninsula. The condition one year ago was 69 in the state, 71 in the southern counties, 66 in the central counties, 65 in the northern counties and 77 in the upper peninsula.

Beans.—The probable yield of beans compared with an average per cent is 69 in the state, 67 in the southern counties, 68 in the central counties, 73 in the northern counties and 93 in the upper peninsula.

Peas.—The estimated average yield in the state is 20.78, in the southern counties 15.00, in the central counties 25.20, in the northern counties 17.08 and in the upper peninsula 26.09 bushels per acre.

Potatoes.—The condition of potatoes compared with an average is 69 in the state, 63 in the southern counties, 65 in the central counties, 76 in the northern counties and 94 in the upper peninsula. The condition one year ago was 91 in the state and central counties, 88 in the southern counties, 95 in the northern counties and 94 in the upper peninsula.

Clover Seed.—The condition of clover seed compared with an average per cent is 74 in the state, 75 in the southern counties, 73 in the central counties, 72 in the northern counties and 63 in the upper peninsula. The condition one year ago was 75 in the state, 73 in the southern counties, 71 in the central counties, 72 in the northern counties and 63 in the upper peninsula.

Cucumbers.—The condition of cucumbers compared with an average per cent is 72 in the state, 63 in the southern counties, 75 in the central counties and 81 in the northern counties and upper peninsula. The estimated average yield in bushels is 64 in the state, 61 in the southern counties, 66 in the central counties, 60 in the northern counties and 90 in the upper peninsula.

Grain and seed threshed in Michigan up to and including August 17 per returns of threshermen is as follows:

Winter wheat	3,675,401	14.77
Spring wheat	115,478	19.82
Rye	2,239,678	15.09
Oats	14,602,339	41.40
Speltz	54,169	23.46
Barley	3,060,684	30.51
Peas	3,810	15.55
Timothy Seed	300	4.62
Clover Seed	7,740	2.59



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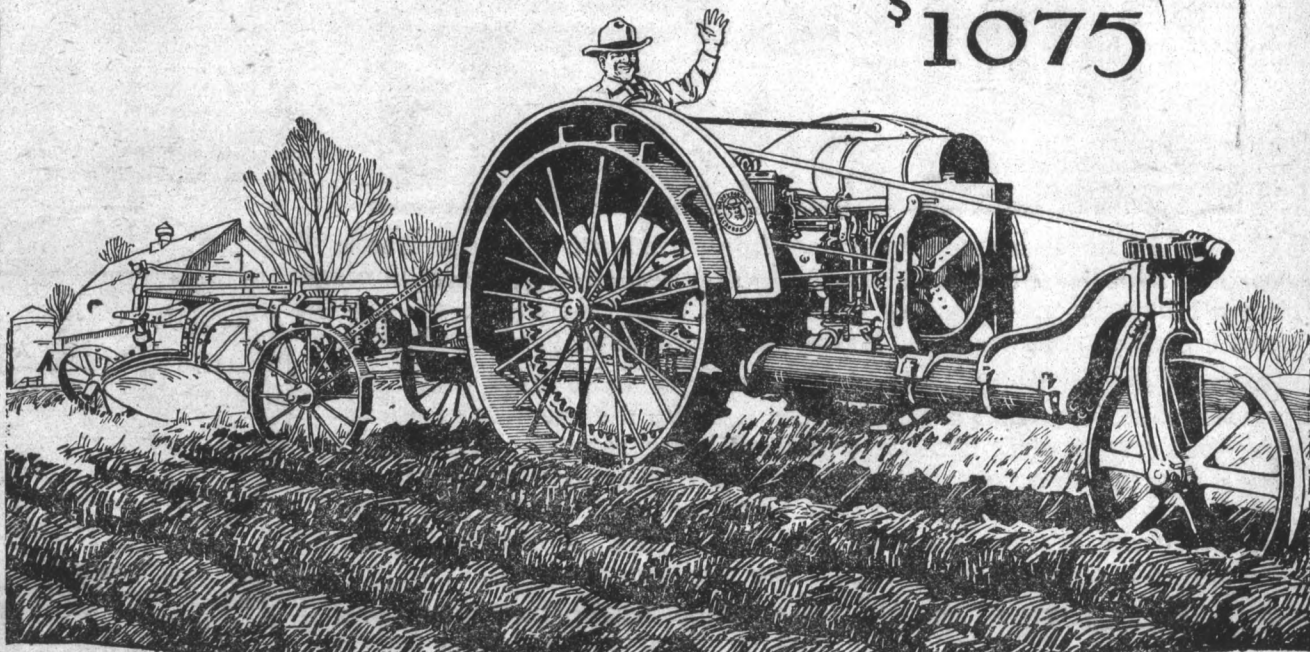
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Bred gilts and boars all sold nothing to offer at present. W. E. LIVINGSTON, Parma, Mich.

Large type P. C. fall gilts up to 365 lbs. ready to ship for Aug. and Sept. farrow. Fall sale Nov. 29. Wm. J. CLARKE, R. 7, Mason, Mich.

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Some Good Breeding Ewes and registered RAMS for sale. Barnard Sheep Ranch, R. 5, Clare, Mich.

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250 Choice grade Shrop. brood ewes: one to four years old: natives: \$16.00 per head. Henry M. Kimball, Vicksburg, Mich.

For Sale 120 grade Shropshire Ewes, 1 to 3 years old also one car load of yearling steers and one car load of 2 year old steers. J. B. GARDNER, Cadillac, Mich.

Shropshire Am offering 8 yearling rams now. Also 12 young ewes for December delivery. C. J. THOMPSON, Rockford, Mich.

Registered Shropshire, one and two year old rams, Rand ram lambs, of the best wool-mutton type. Write for prices. G. P. ANDREWS, Danville, Mich.

Reg. Shropshire Rams of quality, one Imported young ewes for December delivery. HARRY POTTER & SON, Davison, Mich.

Additional Stock Ads on Page 239

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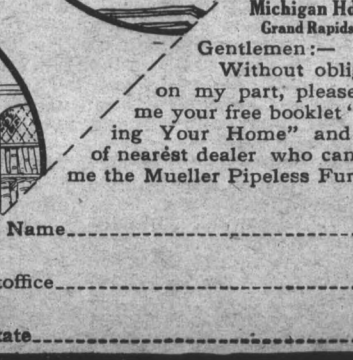
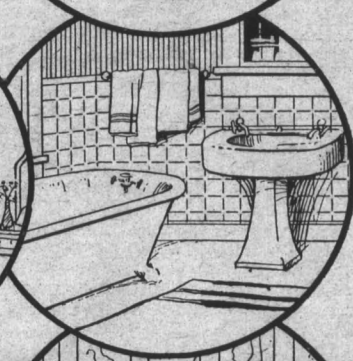
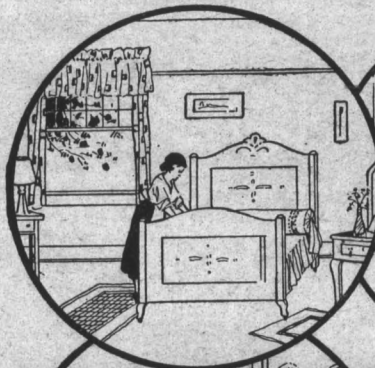
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