

MICHIGAN FARMER

AND LIVE STOCK JOURNAL
PUBLISHED WEEKLY. ESTABLISHED 1843.

The Only Weekly Agricultural, Horticultural, and Live Stock Journal in the State.

VOL. CXLIX, No. 11
Whole Number 3958

DETROIT, MICH., SATURDAY, SEPTEMBER 15, 1917

\$1.00 A YEAR
\$3.00 FOR 5 YEARS

A "Patriotic" County Farm Contest

By PROF. J. F. COX

SHIAWASSEE county has established a new form of farm contest which is not only unique and original, but thoroughly in keeping with the spirit of the times. Other counties may find it to their advantage to follow suit.

The object of the contest was to designate the farmers of Shiawassee county who were producing the most food in answer to the President's call, and who at the same time were adhering to sound agricultural practices. Mr. A. B. Cook, food emergency agent, was largely responsible for the idea. If nothing more were accomplished, the thorough "cleaning up" given many farms before the judge arrived made the contest worth while.

Forty-two farms were entered in the contest. Each supervisor named two farms—the best in the township in his estimation, though any farmer in the county could enter. Prizes were awarded August 22 at the Shiawassee County Fair. First prize, \$75; second, \$50; third, \$25, contributed by business men, bankers and others.

The Prize Winners.

The winner of the contest was Mr. John Carruthers, the "big farmer" of the county. Mr. Carruthers operates a farm of 750 acres, carrying a good diversity of crops; fifty acres of beans; forty acres of potatoes; seventy acres of oats; forty acres of corn; thirty acres of alfalfa; sixty acres of hay; one hundred acres of pasture along the river. His crops were in excellent condition. During the winter he feeds out from 2,000 to 3,000 sheep. Fertility and upkeep are provided for by the application of manure and of from 300 to 400 pounds of acid phosphate per acre applied to wheat and oats in rotation. This farm is producing food at great economy of man and acreage. If divided into seven small farms of 107 acres each, at least two men would be needed at this season on each farm, requiring fourteen in all. Under Mr. Carruthers' direction nine men are employed.

The second prize was won by D. C. Read. Mr. Read's farm consists of about 160 acres, carrying thirty acres of beans; twenty-five acres of wheat; fifteen acres of oats; eight acres of corn; twenty-eight acres of clover; eight acres of timothy; fifteen acres of

pasture. His field of beans is one of the best in the county. The farm is extremely neat and free of weeds. Four or five hundred lambs are fed each winter and the manure secured, with application of acid phosphate, account in large part for its present highly productive condition. The field arrangement on this farm provides fairly large fields which economize labor.

The third prize was awarded to Mr. L. A. Hart, of Venice township. Mr. Hart is a renter, who at the same time that he makes profit for himself and the farm owner, builds up the land and keeps things in good condition. Such men are as valuable as they are rare.

methods which met with a less measure of success. It was noted, for instance, that the leading farmers provided for fertility upkeep by growing crops in good rotation—clover every three or four years—by feeding stock and returning manure to the land, and by the use of acid phosphate or high phosphate fertilizer, particularly on the grain crops.

The best farms were planned so as to economize labor. As a rule, large fields prevailed. Good horses and improved machinery were in evidence. Unnecessary fences were not allowed to stand. A great amount of time and labor is saved in this way, for the

Another point characteristic of the best farms was the fact that the tile drain was extensively used. In this section, for high production, it is absolutely necessary that much of the land be tile drained. As a class, the best farmers follow the practice of planting a diversity of crops even in this year when there is such a great demand for beans, grains and potatoes. It is not wise to depart from a sound cropping system based on carefully planned rotations. Clover sods are necessary in fertility upkeep and in providing hay and pasture.

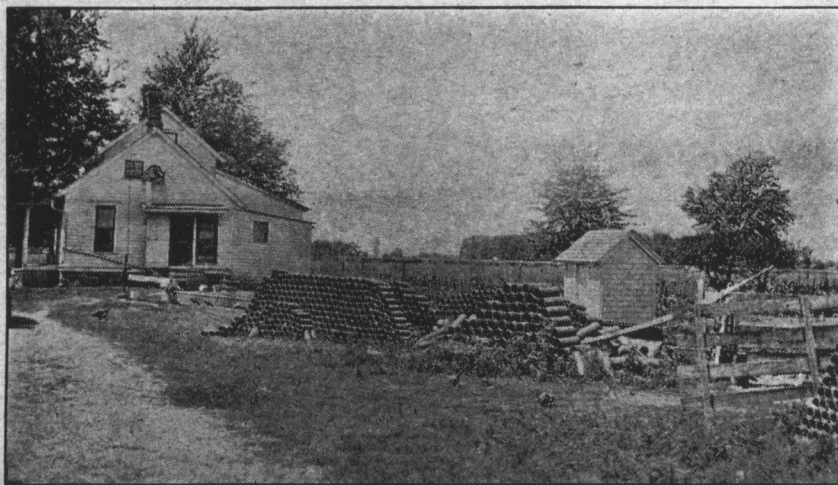
It was also noted that the best farmers entered in this contest made special effort to thoroughly prepare seed beds before planting. They realize the value of fall plowing and early spring plowing and thorough working of land before seeding. Tile drainage, they claimed, was largely responsible for making this possible.

The Lack of Preparedness.

Generally speaking, it may be said that the farmers of Shiawassee county, in common with the average Michigan community, have responded to a creditable degree to the call for more food. They were too busy, most of them, to even stop and visit with so unusual a personage as a "farm judge," and after answering the questions of the judge and giving him the "freedom of the farm" they were "back in the collar" again. It was noticeable, however, that in the case of farming, as well as in the case of the army and navy, we were not found fully prepared to meet the great demands put upon us. For instance, more tile is needed on many of our farms, better machinery, more economical field arrangements, etc. The trenches we dig for tile in Michigan this fall and next spring may render as important service in the defense of our country as many of those dug on European soil.

A great number have had a mistaken idea of "preparedness" and have allowed manure to accumulate in heaps around barnyards and in feeding yards and stalls. Old straw stacks have been allowed to decay on many farms. These accumulations are of too great value to be neglected at this time. They should be distributed where needed as rapidly as possible. Get on the

(Continued on page 315).



Ready for the "Trenches," which May Render as Important Service in the Defence of Our Country as Many Dug on European Soil.

His claim for third prize is based chiefly on sixteen and one-half acres of good sugar beets; twenty-three acres of the best beans in his community; fifteen acres of wheat, nine acres of corn; eighteen acres of oats; twenty-four acres of clover meadow. He also feeds sheep during the winter, makes use of phosphate and returns all the manure available.

Observed Factors of Success.

It is regrettable that the rules of the contest did not provide for some mention of the other excellent farms entered. In going over these farms an excellent opportunity was given to study those factors which made some farms successful, and to determine also

turns in plowing, cultivating and harvesting small fields consume a great deal of horse and man time. The cost of fencing is a considerable item. The land taken up by the best type of fence is equal to a strip at least eight feet wide extending the length of the fence. In fact, if actually measured, from ten to twelve feet would be found to be lost in the case of the average fence, and the old-time rail fence will occupy from sixteen to twenty-four feet. Fences should be used only where they are needed to fence off pasture, or as line fences. The larger the field, the more economically it can be handled. As a rule, a rectangular shape is the best—say, twice as long as wide.



A Costly Failure Due to Poor Drainage. Well Laid Tile Would Have Meant a Uniform Stand of Beans.



Michigan Farmers Cannot Afford to Maintain Fences Like this. Too Much Land is Wasted.

The Michigan Farmer

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The Lawrence Publishing Co.

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TERMS OF SUBSCRIPTION:

One year, 52 issues.....\$1.00
Two years, 104 issues.....\$1.50
Three years, 156 issues.....\$2.00
Five years, 260 issues.....\$3.00
All sent postpaid.

Canadian subscriptions 50c a year extra for postage.

RATES OF ADVERTISING:

40 cents per line agate type measurement, or \$5.00 per inch (14 agate lines per inch) per insertion. No advt. inserted for less than \$1.20 each insertion. No objectionable advertisements inserted at any price.

Member Standard Farm Papers Association and
Audit Bureau of Circulation.

Entered as second class matter at the Detroit, Michigan, post office.

DETROIT, SEPTEMBER 15, 1917



CURRENT COMMENT.

Making the Potato Market.

The state and national crop reports, which will be found on another page of this issue, indicate a record production of potatoes for the country, with Michigan heading the list from the standpoint of total production. With an indicated production of 44,513,000 bushels, Michigan is well in the lead of other important potato-producing states, and according to these official estimates will produce practically one-tenth of the late potato crop of the country. Of course, this large potato crop is still very much a "bird in the bush" rather than "in the hand," and the crop finally harvested may not measure up favorably with the present indicated production.

It is, however, not too early for the potato growers of Michigan and the country to consider the marketing problem involved under the present unusual conditions, and to be prepared to get the best possible income from the record crop now indicated in the event of its realization at harvest time. With Michigan leading in production, the farmers of this state have a greater opportunity than those of any other to make or break the market in case the crop should equal present prospects. An early and careful consideration of the marketing problem involved will consequently be time well spent by every commercial grower of potatoes in Michigan.

While potatoes are included in the list of products named in the food control bill, and the Food Administration has power to take such steps as may seem desirable in controlling the distribution of the product, the course at present contemplated involves the acceptance of warehouse receipts of potatoes as collateral for loans by the federal reserve banks, the increase of warehouse facilities for the storing of potatoes at primary points and a comprehensive effort to stimulate an increased consumption of potatoes by the people of all sections of the country.

When we take into consideration the fact that the indicated seasonal production is only about 40,000,000 bushels greater than in 1912, and 50,000,000 bushels greater than in 1914, it be-

comes evident that even a slight increase in the per capita consumption of potatoes would more than absorb any possible excess in yield above the crops of the years mentioned, yet the average farm price of potatoes on December 1 of those years was approximately fifty cents per bushel, and the average wholesale price in Chicago was above \$1.00 per bushel, and that with wheat selling at less than one-half its present value as fixed under government control, and other food products relatively still cheaper in comparison. A study of crop statistics also indicates that the October estimates of the potato crop will average fully five per cent lower than the September estimates, while the final estimates are generally less than those in October.

Under these conditions, it will undoubtedly be the part of wisdom for Michigan potato growers to make plans and preparations for storing the bulk of the state's crop for later distribution, as the market will take the tubers at a fair price as measured by the cost of other food products. Undoubtedly the crop prospects will be made the basis of an attempt by the potato dealers to start the potato market at a low price and maintain shipments at low country values during the early part of the consuming season at least. If the majority of growers, however, are provided with adequate storage so that the bulk of the crop can be held until needed for consumption, or if shipment becomes necessary if the potatoes can be stored in terminal warehouses by the growers until the market will absorb them for consumption, the potato market will be stabilized to a degree which will be highly beneficial to the growers without proving any hardship at all to consumers who will thus be protected from a probable spring shortage and consequent high prices by the holding of the crop in the hands of the growers rather than the speculators.

The trend of market values cannot, of course, be predicted at this time with any degree of accuracy, but even present values are not greatly out of line with prices for other staple food stuffs. While wheat and its products promises to be the only line of food stuffs in which absolute price control is maintained by the Food Administration, yet the price fixed for these products constitutes a measure of value which is bound to influence the market price of other staple food stuffs, and with wheat at the standardized price of \$2.20, and other staple products all selling at values which fully measure up to this standard, potatoes will not be cheap unless growers make them cheap by crowding a large accumulation of potatoes above requirements for current consumption on the market early in the season before relative price values are established.

It is up to the potato growers of the country to make the market for the 1917 potato crop, and in view of the fact that Michigan growers will produce more of that crop than the growers of any other state, the responsibility is theirs to lead in preparations for conservative and consistent marketing of the season's crop rather than to follow the ordinary plan of dumping the whole crop into the hands of speculators. The wise grower will provide himself with storage facilities so that the crop may be held in first hands at home to be sold as market conditions may warrant.

Michigan's Crop Prospects.

The federal estimate of the combined condition of all crops on September 1, rates the condition of Michigan's crops at 107 as compared with 102.5 for the country, 100 representing a normal or average general crop condition. This is a gain for Michigan of 5.6 per cent for the preceding month as compared with a gain of 2.7 for the country.

On September 1 the index figure for

prices of the principal crops was about 73.1 per cent higher than a year ago, 111 per cent higher than two years ago and 101 per cent higher than the average for the past nine years on September 1. On August 15 the index figure of prices for meat animals was 47.1 per cent higher than a year ago; 75.7 higher than two years ago, and 70.1 per cent higher than the average for the past seven years. These estimates of crop prospects and prices spell prosperity for Michigan farmers.

Growing Better Grain Crops.

A great deal of good advice has been given to Michigan Farmer readers in recent issues relative to growing better grain. This advice is in line with results secured in experimental trials and on the farms of Michigan grain growers and will be a safe guide for every reader to follow. From information recently gathered, it appears that wheat growers are practicing better methods with regard to seed, seed treatment, proper preparation of the soil and fertilization of the crop than are the growers of other grains, particularly of rye. While the demand for good seed wheat has practically exhausted the available supply of pure-bred varieties, reports indicate that a great many farmers are sowing common rye, when good seed of Rosen rye, which has demonstrated its superiority in all sections of the state, is still available in sufficient quantity to meet all demands.

This is a mistake which should not be made, and farmers who have good seed of this variety should take the trouble to make it known to others in their neighborhoods, and to farmers of the entire county through the county agent, in order that available grain of this improved variety which gives so much better yields than the common sort may be all utilized as seed rather than used for milling purposes or feed.

Good methods of fitting the seed bed for rye will pay almost, if not quite as well as good methods of fitting the seed bed for wheat, which are generally recognized to be essential by wheat growers. Because rye is a more hardy grain and is more certain to give some kind of a crop even though sown in a poorly prepared seed bed and under unfavorable conditions is not a good reason for not giving this grain the best possible chance if it is sown on your farm this fall. Fertilization too, will pay almost as well with rye as with wheat, and will increase the chance of getting a good seeding of clover in the same proportion as when used on the wheat crop.

The one essential which more wheat growers will perhaps neglect than any other is the treatment of seed for smut by the method described in our issue of last week. Because they have not carefully noted the loss from smut in previous crops and have not been able to estimate it correctly and have sold grain at little or no discount because of the presence of smut, this may be but a natural tendency, but at the guaranteed price for wheat next year, the loss in the lessened yield because of the presence of smut will be proportionately increased, while under the new United States grain standards act, the dockage for smut will be uniformly applied and will be out of proportion to the loss suffered from this cause in previous years. This loss, however, can be entirely forestalled by taking the precaution to treat the seed for smut this fall. The use of improved seed and improved methods of culture will pay big dividends when applied to the acreage of fall grains to be sown this fall.

The Michigan State Fair, which closed on September 9, was the most successful from the standpoint of attendance of any similar event ever held in the state, the attendance exceeding that of last year by more than 100,000, and approaching the half-million mark. The exhibits in some de-

partments, notably live stock and fruits, were less in number than usual, but of good quality, while other educational exhibits were well up to previous standards in number and quality, the poultry show being particularly good.

The practical support given the State Fair by this liberal attendance is not only merited recognition of the state's first agricultural show, but of the industry for which it stands. Similar support should be given to the other fairs of the state by the people of the sections in which they are held.

HAPPENINGS OF THE WEEK.

Foreign.

The European War.—Heavy fighting continues on the Italian front. Last week after a series of successful encounters the Italians succeeded in taking Monte San Gabriele, an important elevation which commands a large territory and opens a route into Austria. The Teutons are redoubling their efforts to win back the lost position in a desperate struggle which is now on. Storms have interfered with operations farther to the south on the Carso plateau; although fighting continues it is with less violence.—Last week the French added to their gains in the Verdun sector, particularly on the right bank of the Meuse river. On Sunday the Germans made several unsuccessful efforts to regain portions of the trenches lost, with the final result however, of the French holding and organizing the territory with their old positions. The Germans left nearly 1000 dead on the field. British troops were successful in attacks west of St. Quentin, where several hundred yards of trenches were taken with many prisoners. In Flanders the British guns have been bombarding the enemy for more than a fortnight, but as yet no infantry attacks have been made.—The German advance in the Riga district has been slackened by the stiffening of the Russian lines, particularly on the railway lines leading eastward from Riga. The capture of this base two weeks ago has allowed the Russians to considerably shorten their front by extending the battle line on a more direct route to the Riga coast. Preparations are being made to protect Petrograd from capture, which point is without doubt an objective of the Teutonic forces.

Officials in Switzerland are contemplating the expulsion of all foreigners of military age now residing in that country.

Reports indicate that Germany is about to offer a new basis of peace. According to these reports the new proposal will include the restoration of conquered lands, universal disarmament, freedom of the seas to all nations and the independence of Alsace Lorraine. The main committee of the Reichstag is now working on the final phase of the proposal.

Another crisis appears to be developing in the Russian cabinet. The opposition of the constitutional democrats has brought about the dissension.

National.

On Monday of this week a referendum will be taken in Maine to decide whether an amendment to the constitution of the state providing for equal suffrage shall be adopted.

Only two cantonments of the sixteen that were to have been completed by September 4 were ready as per schedule. These two were Camp Taylor at Louisville, Ky., and Camp Travis at Fort Sam Houston, Texas.

In a demonstration parade at Springfield, Ill., two men were shot and others injured by troops Sunday. The parade had been forbidden as a precaution against disturbances.

The manufacture of distilled liquors is now prohibited throughout the United States by act of Congress.

Six persons were killed and one fatally injured when an automobile was struck by a fast train near Rush, New York.

More than 100 hogs have died as the result of an epidemic of hog cholera in eastern Lenawee county. A representative of the Federal Bureau of Animal Industry complains that owners of hogs are failing to comply with quarantine regulations.

Bank clearings for the month of August indicate that business is being maintained in satisfactory volume. The aggregate of exchanges at all leading cities of the United States amounts to \$24,883,764.379, the largest amount ever recorded for August, it being 26.6 per cent greater than for August of 1916, and 75.1 per cent greater than for the corresponding month two years ago.

A score of persons were injured, some of them fatally, in a rear-end collision of interurban cars near Akron, Ohio, Sunday evening.

Car Door Observations

By I. J. MATHEWS

I HAVE just returned from a trip in a "side-door Pullman." The occasion for this trip was to transfer some stock from northern Indiana to central Michigan. The route that I took carried me through a large portion of northern Indiana and through representative territory in southern Michigan.

But Little Live Stock in Evidence.

I have ridden on freight trains before and I know what it is to pass through broad meadows and wooded pastures in which stock of all kinds is grazing. From the lookout door of the "cabin," that's what railroad men call the caboose, it is usually possible to see considerable stock on both sides of the right of way. On my recent trip, however, I was impressed with the fact that there are no great numbers of any particular kind of stock. At this season of the year when farmers are ordinarily getting in feeder steers to eat up the surplus corn, there should be more to be seen in the pasture lots, still I often rode five or six miles before seeing a single animal on either side, to say nothing of any number that would approximate a carload. In going two hundred miles only eight flocks of sheep were seen. Here and there, say every two or three miles, there would appear three or four cows in a pasture field, but of dairy stock I saw practically none, notwithstanding the fact that I passed through what is ordinarily supposed to be a dairying region.

Clover Not Plentiful.

Another fact with which I was impressed is that clover fields are not as plentiful as they have been in years past. As one rides along the right of way he may at times feel surprised to notice that clover is growing in profusion at practically all points inside the right of way but as soon as you get over the fence into a cultivated field the clover seed seems to be a little lazy about taking root and countless fields showed only here and there small patches of clover and these usually in the low spots. The explanation for this is probably that the soluble lime has leached down to these low spots and has been deposited here when the water evaporated. This keeps the clover on its feet. In two instances I noticed clover fields that seemed to be well caught only in strips across the field. These strips were from two and a half to three feet apart. Explanation for this is, no doubt that the clover was seeded in oats after corn and the clover is growing rank directly over the corn rows and is making but little growth in the center of the row. The growth taking place in the corn rows may be attributed to the fertilizer planted with the corn.

Fair Warning.

It is well that farmers take heed if they are to establish a system of farming that will be permanent. That system of farming that makes the son say cruel words about his father and the impoverished farm he left him, is hardly to be recommended. There are a great many farms that are suffering because there are no leguminous crops that take a regular part in the rotation. A great many of our folks sow clover and then when it "kills out" or "winter kills" they sow some small grain, or corn in its stead. This goes on continuously until it is not at all difficult to find fields that have not seen a leguminous crop for ten years, and some of them will now scarcely raise a good crop of weeds. In isolated cases even a good strong wind has hard work to raise a disturbance.

Clover seed may winter-kill, it may even be killed by the drought or it may be smothered out, but the vast number of plants that die out on the farm do so, not because any of the three foregoing conditions prevail, but because

of the fact that the soil has become so acid through continuous cropping. A permanent system of fertility on most of the farms means that some lime will have to be sown sooner or later. The cost of preparing the seed bed is the same one year with another but the yield of the crops continuously gets smaller until there comes a time when the sale of the crop brings less money than it costs to grow the stuff. When that time arrives, that is what I call "the beginning of the end."

Every farmer ought to map out some definite system of limestone use and crop rotation so that the fertility of his farm will increase year by year. A certain definite acreage should be limed each year, if the clover is now continually failing in all fields. You say, "that costs money," and I believe I heard you say, "my father raised clover on this land and I don't see why I can't." I will agree that it costs mon-

wassee county need lime, but to the south and west sorrel has come into meadows, and clover is secured with difficulty. These conditions can be remedied, a good clover crop secured and phosphate and manure made to work more effectively if two tons of ground limestone or two cubic yards of marl is applied at the time of fitting the seed bed, once in every four or five years. The great accumulations of marl which occur scattered all over Michigan, can if properly utilized, enormously increase the productive value of Michigan soils. Marl should be dug out this fall while the water level of swamps and lakes is low and the ground fairly firm and dry. It should be hauled to dry land or thrown out where it will drain and dry and be acted upon by the winter. In the spring it will be found in good condition for application. A better grade will be secured if dried beneath a roof, though the wet marl may be applied with excellent results if the haul is not too great.

During fall and winter is the time to plan our campaign, not for a single sea-

ditions of the parent plant which produced the ears, and it is very likely that many of the desirable ears selected owe their good points to very favorable environmental conditions and cannot transmit desirability so gained to their progeny.

The proper time to field select seed corn is when the corn is mature and ready to husk, though if cut short by frost selection should be made immediately. In making the selection, perhaps the best way is to walk down the rows with a sack tied over the shoulders, plucking those ears which are considered desirable. Plants growing at the edge of the field, or where there is but one plant to the hill, or where the soil is exceptionally fertile, may produce desirable ears because of a better environment, more light, moisture and plant food than the average plant receives, and not through heredity. Only ears borne on vigorous plants growing under average conditions, which have reached proper maturity and size, which are borne at proper height (about three and a half feet), and with tips slightly drooping, should be selected. The ears should then be properly dried and stored. Further selection for uniformity, type, and composition can be made through the winter or when making the germination test. By proper field selection, any farmer in Michigan has in his power to markedly improve his corn variety.

FARM NOTES.

Sowing Lime on Wheat Land.

Would you advise sowing both lime and acid phosphate on land that is to be sown to wheat this fall. When would you advise sowing the lime and how much per acre? Would it be better to sow the acid phosphate a few weeks before sowing the wheat, and how much per acre? Could I mix the lime and acid phosphate and sow both at one operation in a lime drill?

Calhoun Co.

E. O. P.

Whether it would be profitable to apply lime to land which would be sown to wheat this fall would depend very largely upon whether or not the soil shows an acid reaction. It would be advisable to test the soil for acidity with litmus paper, and if it responds to the test, it would certainly be profitable to sow lime, in which case it should be sown as soon as possible after the land is plowed, so as to be thoroughly mixed with the soil in fitting it for wheat.

While it would be possible to mix the acid phosphate with lime and sow same broadcast at the one operation, it would not be practical to get as even distribution by this method as though the acid phosphate were sown with a fertilizer drill at the time of seeding. This latter method also puts the fertilizer right where the young plants have ready access to it, and is undoubtedly the best way to apply it.

Practically all Michigan soils respond to an application of phosphorus for grain crops, and a very large percentage of our soils are deficient in their content of lime, for which reason a test is advised. Ordinarily, a soil which grows clover readily is not seriously deficient in lime, although the Ohio experiments indicate that even on such soils it is profitable to apply lime for wheat.

AN EFFECTIVE METHOD OF DESTROYING WOODCHUCKS.

In reading the many good, helpful articles in the Michigan Farmer of September 1, I note the inquiry for a method for destroying woodchucks, which are, often, a great annoyance on many farms. The following method has proved successful on my own farm. Place a dynamite cartridge well down into the woodchuck's hole and fill all the openings with dirt, then light the fuse attached to the cartridge and the explosion of cartridge will kill the entire family of woodchucks.

Clinton Co.

J. T. DANIELLS.



Spraying a Forty-acre Potato Field for Blight and Bugs on Farm of J. C. Caruthers, One of the Practices of the Most Successful Farmers.

ey to sow limestone, and I will further agree that your father grew plenty of clover, but is it not good business to sow sixty dollars worth of limestone and thus make possible the raising of clover that will add \$200 worth of nitrogen to the field? I wish I had quite a lot of money to put out at that rate.

I may have wandered a little bit from my "car door observations," but if I might be influential in stiffening the spine of some man who is earnestly trying to effect a system for permanent farming on his place, I would be glad that I had jotted down these observations.

Indiana.

I. J. MATHEWS.

A "PATRIOTIC" COUNTY FARM CONTEST.

(Continued from first page).

land and disc in in preparation for wheat or rye, or apply as a top-dressing in November and December. Two tons of barnyard manure, even though considerably leached, contains as much

son but for years to come. Take out useless fences, shape up misshapen fields, plan rotations to supply continuous succession of the right crops in the right amounts each year. Tile drain wet lands. Lime or marl where calcium carbonate is needed. Get all available manure on the land and arrange facilities to put manure on the land as soon as produced. We expect Michigan soldiers to prepare for a long campaign and to make great sacrifices. It is equally important that Michigan farmers do likewise.

SEED CORN SHORTAGE POSSIBLE.

The fact that Michigan corn is somewhat laggard in ripening this season has in many districts made it plain that a shortage of seed corn next spring is not improbable, but while this matter is one deserving of serious thought, it need not be cause for downright worry, for careful selection of seed corn in the field probably will insure at least an adequate supply for those men who will take a little time



One hundred and Sixty Acres of Beans on a 160-Acre Farm. What will Follow? Good Rotations Must be Maintained.

potash and nitrogen as one ton of a 1-8-2 fertilizer now costing \$30 or more. The value of manure in increasing the water holding capacity of soils, improving texture and preventing winter killing, is even greater. The crop so treated will be in much less danger of winter killing. A wider use of acid phosphate is strongly recommended. Apply from 200 to 300 pounds of acid phosphate, or 1000 pounds of rock phosphate previous to seeding wheat, rye or oats, or for beans and corn. On a great number of Michigan farms lime is necessary as a foundation of fertility upbuilding. Few farms in Shia-

and a few precautions to protect themselves.

Field selection, as compared with the ordinary crib selection method, will usually increase the yield of ordinary corn varieties from seven to ten bushels per acre, if properly performed. Enough corn to plant twenty acres can be easily field selected in a day's time. With a seven-bushel increase, the corn grower who plants twenty acres of corn will be rewarded with 140 bushels in his next season's crop, or \$70 a day for his labor in field selecting.

In selecting at husking time or from the crib, nothing is known of the con-

We Guarantee 35% Fuel Saving



over the expense of heating your home by any other method when you use a Caloric Pipeless Furnace. Many of our customers say that they save half. This guarantee applies to coal, coke or wood.

It's a clean saving of over a third of your fuel bill. Not only that, but you will not know real heating comfort until your home enjoys the balmy circulation of healthful warmth distributed by the Caloric.

With complete satisfaction at a third less cost, your own best interest urges you to install a Caloric. We've ample proof for all we claim.

OVER A THOUSAND LETTERS PROVE IT

We've put them in a book. Ten thousand more might be added. Every one of these is the actual experience of a pleased owner.

No heat in the cellar—ideal for storage of fruits and vegetables. No coal to carry to three or four stoves. No dirt or dust in living rooms. No long pipes to waste heat. No holes to cut in walls. No risk of fire. Only one register. Can be put in any house, old or new. Costs little to install. Price is low. Satisfaction guaranteed.

I consented to the installation of a Caloric and the results were wonderful. I own and occupy an eight-room residence. During previous years I consumed, in a base-burner, between nine and ten tons of coal and used only three rooms on entire first floor. With a Caloric I consumed seven tons and found that the second floor of my residence was just as comfortable as anyone could desire. At a temperature of five degrees below zero, I found the fourth or front room on first floor of my residence to be 72 degrees. Demand a Caloric and your heating problem is solved.

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ENGLAND WILL SACRIFICE LIVE STOCK FOR GRAIN CROPS.

The 1918 harvest program for England and Wales contemplates two million acres less grass and 2,600,000 more grain, according to an official statement received by the Food Administration.

The announcement shows a change from that previously given out by the British Board of Agriculture, wherein the government urged farmers to plow up an additional 3,000,000 acres of grass land, in the hope of making England as near self-sustaining for cereals as possible.

The agricultural program proposed, taken in conjunction with the declining scale of prices fixed by the government for cattle, indicates that cattle are to be sacrificed for grain in the present emergency as a part of the governmental policy, and that the end of the war will find the meat and live stock problem left largely to the United States for solution, with increased demands upon us for live stock and dairy products, and lessened demand for grain.

The British official statement says: "In 1916 there were 5,730,000 acres under corn crops (wheat and barley, oats, rye, beans and peas), in England and Wales. The board aims at an addition to this area of 2,600,000 acres in the harvest of 1918—an addition of 300,000 acres has been made. In 1918 the board expects to secure 600,000 acres of potatoes as compared with 428,000 acres grown in 1916. Nearly one-half of this increase has already been obtained. Reductions in the areas of temporary grass and in certain of the less important crops of arable land are proposed, so that the extra 3,000,000 acres of essential crops may, it is estimated, be secured by the plowing up of about 2,000,000 acres of permanent grass. Over and above mountain and hill grazings, there were 16,000,000 acres under permanent grass in England and Wales in 1916; it is thus only necessary to plow one-eighth of our grass land when preparing for the harvest of 1918; and it may be estimated that quite one-fifth of this task has already been completed.

"Various circumstances have combined to bring about this revision of the official program for 1918. In the first place the new policy has proved so acceptable in Ireland and Scotland that those two countries have contributed an increased corn production this year over the year 1916 and have arranged to add largely to their tillage for 1918. This factor has enabled the government considerably to reduce its call upon England and Wales. Other factors in the situation have been the difficulty, without unduly interfering with the supply of man power for the army, the navy, and munition and other essential services, of providing sufficient labor and machinery to carry out the whole of the government's agricultural program in one season.

"The aim of the government's revised plan (as it was the aim of the original) is to break up a sufficient amount of the poorer quality grass land that has fallen down since 1870 or thereabout to grow enough cereals to render the country self-supporting in case of extremity.

"Unless the position of affairs should become unexpectedly more serious during the late summer, the official opinion is that with the good will of agriculturists generally and a continuance of the energetic and public spirited action of the executives, it should be possible to approximate very nearly to the ideal of an additional 2,600,000 acres of corn following upon the breaking up of about 2,000,000 acres of permanent grass."

Don't fail to treat seed grain with formaldehyde as described in the last issue. It will add to both the yield and the price received for the product.

GOOD ROADS IN MICHIGAN.

The first mile of state reward road, a gravel road, was built in Elkland township, Tuscola county, in 1905. At Cass City, the west end of this road, a granite monument was unveiled on August 24, dedicated to H. S. Earle, of Detroit, the "Father of Good Roads" in Michigan. Governor Sleeper and other notables were present, fully 2,500 persons taking part in the ceremonies. President Colgrove, of the Michigan Good Roads Association, stated in his address that the good roads of France, permitting the quick movement of armies, have saved France and the world from the Kaiser and his organized savagery. State Highway Commissioner Rogers gave these figures: "Sixteen counties have more than 100 miles of state reward road and they are as follows: Genesee 228; Saginaw, 188; Wayne 174; Tuscola 168; Calhoun 167; Huron 164; Gratiot 157; Berrien 134; Eaton 126; Kalamazoo 118; Kent 118; Oakland 115; Shiawassee 107; Jackson 105; Wexford 102. Counties that lead in the state reward money received are: Wayne \$267,796; Saginaw \$199,843; Delta \$160,610; Genesee \$135,103; Tuscola \$117,280; Huron \$117,280; Calhoun \$116,943; Oakland \$116,301; Bay \$100,308."

Oakland county has bought equipment to preserve the roads built or to be built, including a pressure sprayer for applying either oil or tar preparation to gravel or other roads that are being torn to pieces by traffic.

About 100 good roads enthusiasts of Chippewa and Mackinac counties met at Cedarville and endorsed the plan proposed by State Commissioner Rogers, to build eight miles of trunk line highway on the meridian road south of Pickford. It was agreed to petition the supervisors of the two counties in October for the necessary appropriations. Six of the eight miles lie on the boundary between the two counties and two miles are in Mackinac.

Last year Chippewa county let a contract to D. F. Boyle & Co., of Crystal Falls, to build six and a quarter miles of the Rudyard trunk road, to be built of limestone with trap rock surface for \$45,725.58. Work has been abandoned and the company will not complete its contract on the ground of increased cost of material and labor and impossibility to complete the work in the specified time. Less than two miles of the road have been completed but most of it is graded. The county is left in a bad way and it has been decided by the county to complete the job and to hold the surety company responsible for the cost involved if it exceeds the contract price.

Shiawassee county has let a contract to James Davison, of Farwell, to build ten miles of state reward road in Venice and Hazelton townships for \$53,000. It is to be a twenty-foot road, with nine-foot gravel bed eight inches thick.

Ionia county has let a contract to build a trunk line road between Ionia and Saranac to Ben Benhagel, of Ionia, for \$36,000.

O. P. Carpenter, of Fruitport, has the contract to build the stretch of concrete road from Spring Lake village to the city limits of Grand Haven, and this work will not cost Ottawa county's road fund anything, the funds being supplied by Spring Lake village, the Grand Highway Association and the state reward.

Kalamazoo county, supervisors in special session voted to appropriate \$12,500 towards building a sixteen-foot concrete highway at Camp Custer. The road will cost \$25,000.

Kent Co. ALMOND GRIFFIN.

The late date at which the beans and corn will mature is likely to delay potato digging beyond the usual season on many farms. Plans for taking care of this perishable crop should be made as early as possible in order to avoid loss.

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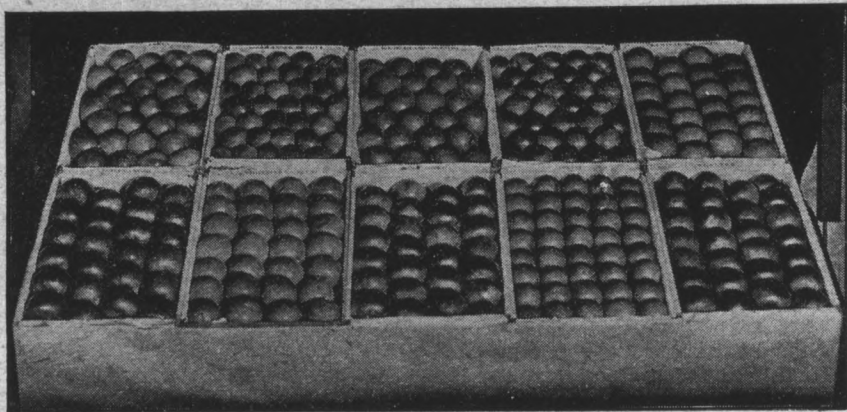
Preparing Fruit for Exhibit

S ELECTIONS for local shows and fairs in many cases simply consists of selecting the largest specimens available. The big red apple has always been featured by many horticultural writers, but it does not always suit the careful fruit judge. The trained judge has a definite idea as to what should constitute the proper size for a good apple and awards his decision accordingly.

In order to determine exactly what was considered an ideal size for fruit intended for exhibition purposes a committee of horticulturists appointed by the Society for Horticultural Science agreed upon the following sizes for the United States. The information was collected by corresponding with growers, dealers and horticulturists throughout the country with the purpose in view of getting their ideas as

vidual specimen shall be free from bruises, worm holes, limb rubs, frost blemishes or any indication of the presence of injury or disease, such as San Jose scale, codlin moth, apple scab, mildew, etc. Over-ripe fruit should not be shown unless it is necessary to complete a list. It should be borne in mind that a blemish of any kind detracts from the value of the exhibit. Most judges disqualify any plate showing evidence of the presence of San Jose scale or codlin moth. In the case of apples each specimen must have the stem intact for the absence of a stem constitutes a serious defect.

Tray vs. Box Exhibits.—The plate has long been the favorite method of exhibiting fruit. At the present time there is a tendency on the part of good growers and fair associations towards the tray and box exhibits because of



Uniformity is Necessary to Make a Good Exhibit.

to what constituted an ideal size for the several varieties. The following table will give the prospective exhibitor an idea of the sizes usually demanded by the judges:

Variety.	Size.
Alexander	3 3/8 to 3 5/8
Baldwin	3 to 3 3/8
Grimes	2 3/4 to 3
Golden Russett	2 3/4 to 3
Hubbardston	2 7/8 to 3 1/8
Jonathan	2 3/4 to 3
Malden Blush	2 3/4 to 3
Northern Spy	3 1/8 to 3 1/2
Oldenburg	2 7/8 to 3 1/2
Rhode Island Greening	3 to 3 3/8
Roxbury	2 3/4 to 3
Stark	3 to 3 1/4
Tompkin's King	3 1/4 to 3 5/8
Twenty Ounce	3 1/2 to 3 3/4
Wealthy	2 7/8 to 3 1/4
Wolf River	3 1/2 to 3 3/4

While size is always a desirable characteristic it may readily be seen from the above that there is an ideal size which exhibitors should always bear in mind.

In the search for size, good color and shape, freedom from blemishes, and particularly uniformity in the various specimens are often entirely overlooked. In order to show the relative value of these points the following score card universally used by all good judges is given:

Form	15
Size	15
Color	20
Uniformity	20
Freedom from blemish	30

Form.—In all cases this refers to the normal type of the variety, region of growth, of course, considered. An effort should be made to select specimens true to type.

Color.—Color is an important factor in the eyes of the judge at all times. The color should always be bright, clear and characteristic of the variety. In red blushed, striped fruits or pome fruits, a high color is desirable. A blush on a green or uncolored variety receives very little consideration. The highest color is the most acceptable in stone and vine fruits.

Uniformity.—This refers to uniformity in size, form and color and maturity. Uncolored, poorly shaped specimens or specimens of irregular sizes have no place in a plate of show fruit.

Freedom from Blemishes.—Freedom from blemishes means that each indi-

vidual specimen shall be free from bruises, worm holes, limb rubs, frost blemishes or any indication of the presence of injury or disease, such as San Jose scale, codlin moth, apple scab, mildew, etc. Over-ripe fruit should not be shown unless it is necessary to complete a list. It should be borne in mind that a blemish of any kind detracts from the value of the exhibit. Most judges disqualify any plate showing evidence of the presence of San Jose scale or codlin moth. In the case of apples each specimen must have the stem intact for the absence of a stem constitutes a serious defect.

Ag. College. J. H. CARMODY.

THE SIX-BASKET CRATE.

One of the neatest packages that the grower can use for high-class fruit is the six-basket crate. Tomatoes which are packed in these baskets in neat rows have an appeal for a buyer that is lacking when they are selected from a bushel basket and must be carried home in a bag. This is a fine package for first-class peaches or plums as they are usually purchased in small quantities by the average buyer and the little baskets seem to meet with much favor. The crates can be stamped with a brand name and this will be of some advertising value to the farm. The six-basket crate should be known as a standard package for the fancy grade of the best varieties of plums and peaches raised in Michigan. Then it should never be used for fruit of an inferior quality. It might result in discriminating buyers giving more attention to Michigan fruit instead of buying the fruit from distant states when they wish to be sure of serving specimens of guaranteed quality on the home table.

R. G. KIRBY.

TROUBLE DEPARTMENT.

Trimming Shade Trees.

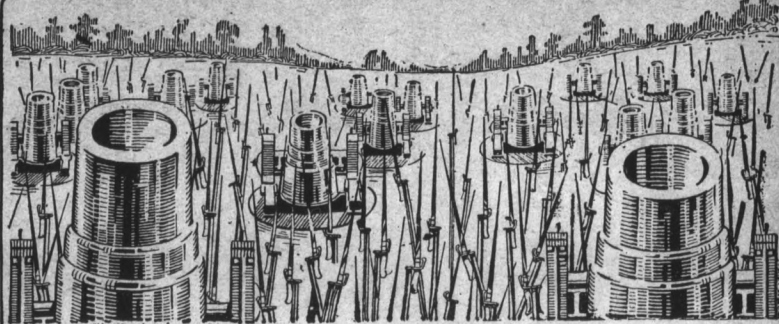
Will you please state in your paper the best time of the year for the trimming of shade trees and the manner in which it should be done?

Clinton Co.

F. J. A.

The best time of the year for trimming trees is spring. The trimming, of course, should be done so as to maintain the symmetry of the tree, and in cutting off limbs no stubs should be left; in other words, the cut should be made parallel and close to the limb from which it is cut.

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The sinking of each food ship is a disaster, but the idle acres of America could grow more food per year than all of the enemy's submarines can destroy. Fight the enemy now, with



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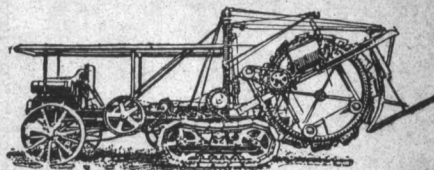
It is the most efficient reclaimer of cut over, boulder strewn or swamp land. It helps to solve the labor problem, enables one man to do the work of many and does it better and quicker.

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Dollars in Ditches



Actual photo of gasoline-driven Buckeye Traction Ditcher. Travels on apron wheels which give support on soft ground.

Contract Ditching with a Buckeye Traction Ditcher is a **sure**

way to make good money! Scores of men—farmers, threshermen, and people who want an outdoor business—are cleaning up \$10, \$15 and sometimes \$20 a day ditching **by the rod** for farmers whose land needs underdrainage.

Here is a letter from a man who cleared \$22.64 per day with a Buckeye Ditcher; and what he is doing **you can do**.

"My gross earnings from 84 days operation were \$2,200. I paid out for help and supplies \$278 and my repair bills amounted to \$20. I had never done contract tiling before getting your machine and my farm work also took up considerable of my time."

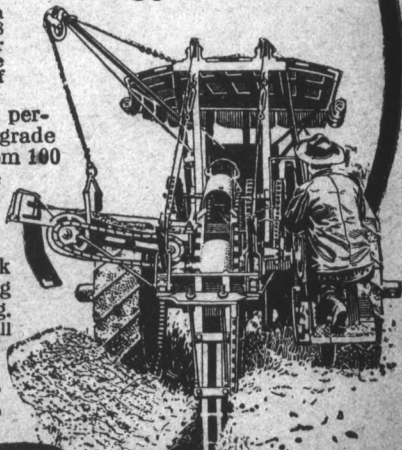
ED. UVAAS, Larsen, Wis.

The Buckeye Traction Ditcher makes a perfect trench at one cut—all finished true to grade and ready for tiling. Yes! and it cuts from 100 rods to 150 rods per day, **winter as well as summer**. Contract ditching is a year 'round business—no lost time except in stormy weather.

Write for "Dollars in Ditches" a book of facts, telling how men are laying away money by contract ditching.

We have a Service Department that will show you how to get started at this business and how to be successful.

The Buckeye Traction Ditcher Co.
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BUCKEYE
Traction Ditcher

Buckeye Traction Ditcher cutting a clean, deep ditch. Delivers excavated earth at side handy for filling after tile are laid.

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Here's Good News

You can still get a *Saginaw* Silo in plenty of time for filling. We have just received additional supply of material that we thought was impossible to obtain. But now we are ready for you and can ship you a silo as soon as we receive your order. Enlist in conserving feed and join the ranks of silo owners. It's a patriotic necessity. Write or wire for present silo prices.

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For Sale Seed Wheat HEAVY YIELDING

Wheatcraft No. 1, this is a bald head red variety grown in Southern Mich. the second season and proven a success. I have a limited quantity to spare price \$6 per single bu.; \$5 per bu. for 3 bu. or more, bags 25c extra. Terms cash with order.

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FOR SALE Rosen Rye. The new variety of rye which has yielded as high as 35 bu. per acre. Write for prices. W. C. Fuller, Farwell, Mich.

FOR SALE Red Rock Wheat and Rosen Rye ready to ship order early.
PARDEE BROS., Galien, Mich.

Mich. Winler Barley: recleaned seed for sale, \$4.00 per cwt.
GEO. McMULLEN, R. 5, Grand Ledge, Mich.

Regarding the Price of Milk

THE great milk meeting at Lansing on August 21, has had a marked influence over the state. The management of many of the condensaries seem to be desirous of stopping the slaughter and dispersal of dairy cows, and are willing to give to the milk producers a price for their products that equals the cost of production. Others are willing to strangle the industry to the point of extermination. The last determination as to cost of production at the present time that has come to this office is \$2.637 per hundred. Add to this a legitimate profit of ten per cent and we have the recommendation of the Lansing meeting of \$2.75, still sixteen cents less than good business methods would warrant.

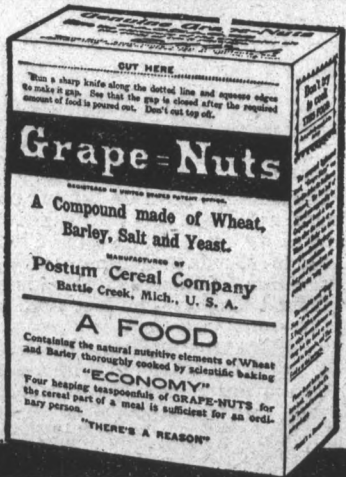
Dairy Cattle Being Sold.

In some states the investigation has revealed a cost of production very much more than the above. The Coldwater and Hillsdale condensaries were the first to announce the acceptance of the Lansing schedule for September milk and were the first to hang out the price of \$2.75 per hundred. Many factories are offering \$2.60 per hundred. The Hastings and Lake Odessa factories, we believe, were the first to come to this point. The Webberville factory has offered \$2.50 with the understanding that they would be glad to make the entire raise to Lansing schedule if their neighbors and competitor, the Borden Company, who are offering \$2.40, would do the same. With these latter factories the price proposition is not yet settled. At Howell there is less milk being marketed than at any time in probably twenty years.

Cattle are going out at an alarming rate. One dealer offered to furnish a carload a day recently. Five hundred and twenty cows have been tested and shipped to other localities by one of Howell's three veterinarians since January 1, 1917.

The Future of the Industry.

The question is frequently asked: What will take the place of the dairy industry that has made Livingston county famous, in her future agricultural economy, Lamb feeding or sheep raising offer great inducements. If a few leading spirits would lead out, this industry might be thoroughly established here. It would require much less labor, less anxiety and at the present time give very much better returns and still care for our soil fertility. History is now in the making. We all await the events of the near future. The findings of Michigan's first milk commission recently appointed by Governor Sleeper, were forwarded to Washington on Monday night, September 3.



The wholesome nutrition of wheat and barley in most appetizing form

The milk producers of Michigan will never appreciate the influence and the importance of this commission and the authorities at Washington have waited anxiously for their findings. We are not at liberty to make these findings public at the present time.

Congratulations have come because of the personnel of this commission, which consists of: Ex-Governor Fred M. Warner, chairman of the Food Preparedness Board; Hon. Fred M. Wood-

worth, Dairy and Food Commissioner of Michigan; Hon. I. R. Waterbury, Member State Board of Agriculture; Hon. J. N. McBride, State Market Director; Prof. A. C. Anderson, Dean of the Dairy Division, M. A. C.

These men have been working to complete their investigation and make its influence felt at this special time.

The people at Mt. Pleasant are preparing for one of the greatest local milk meetings ever held in Michigan, at that place on September 14.

R. C. REED,
Field Secretary.

A Live Breeders' Association

IN this corner of the county we have a very small Jersey Cattle Association. It was organized several years ago by Mr. Raven, with only a few members, but with no dead ones. Our association has not grown much in numbers since that time, but its influence has spread and increased.

Last year we conceived the plan of holding a dairy meeting with the cattle on the grounds where they might be seen. We invited Ex-Dairy and Food Commissioner Helme, and Professor Anderson, of the M. A. C., to be present and assist in the program. Both gentlemen came and our meeting was a success.

This year we united with Sylvan Grange, one of the oldest Granges in the county, and held a meeting August 25, which will be remembered as one of the best and most helpful of any in the history of the county. We secured Prof. Anderson again, and were also favored by the presence of John C. Ketcham, Master of Michigan State Grange.

Dairy Cow Demonstration.

We brought to the ground a number of good Jersey cattle of different ages, and Mr. Anderson gave one of the most interesting and instructive addresses we have ever heard, upon the conformation of dairy cattle with the cattle to demonstrate on.

He used old cows, heifers that had freshened for the first time, and young calves full of promise to illustrate his talk. An audience of men and women stood for an hour and a half while Mr. Anderson talked and illustrated, and I think no one felt weary. Prof. Anderson can do a good many things pretty well, but talking about dairy cattle, with the cattle right at hand, is surely his 'long suit.'

John C. Ketcham gave one of the most interesting and inspiring addresses we have ever listened to. He talked about the value of a Grange to the community. Under that title he said a lot of very practical things. He made a plea for loyalty that touched every heart. Here he was cheered to the echo, again and again. He had the right sort of crowd and he gave them just the kind of matter that found its way to their hearts, and did them good. He spoke very tenderly to the fathers and mothers whose sons are so soon to go out in defense of American ideals. He paid a great tribute to the tillers of the soil who have responded so royally to the call for increased products of the farm. Throughout the address, practical sense, pathos, fun, and lofty patriotism, were delightfully mingled.

To Organize Larger Association.

Arrangements were made for a meeting to be held soon at the county seat to organize "The Oceana County Jersey Cattle Club." We confidently look for a good turnout and a decidedly interesting and progressive organization.

Here in Oceana county are some of the best Jersey cows in the state. As yet they are not numerous, but they are increasing and the prospective club will organize Jersey interests in the county, and make possible some of the things for which a few of us have been waiting.

It would not have been possible to have secured the helpful results of this

meeting in anything like the degree which is now evident, had it not been for another organization of which we must speak—our community has a "Chorus Club," which illustrates what might be done in hundreds of communities in Michigan. But as it is, one would have to travel far and long to find its equal. It is not that we wish to unduly praise our young people. It is not even that we wish to boast that we live in a rural community where these things are possible.

But we are greatly in earnest in this matter of community building. The writer likes a good cow pretty well, but Heaven pity him if he should ever forget that cows are not after all, among the great ends of life. It is a great mistake to raise boys and girls just to keep cows. It is much wiser to keep cows to help raise boys and girls.

At this meeting our chorus rendered two of the finest selections we have ever heard, and they did it just as well as such things are done in our large cities. We have gotten a better living since we began to milk cows, and better ones, and it is a source of happiness to us that we have been able to find time to do in our community some of those things that young people like to do, and which are always helpful to them.

It was nearly sunset when the large audience rose and sang "America" and were dismissed. We all felt that the day had been well worth while. Our interest in our work has been increased, our courage to meet the difficulties in the way was stronger, individuals in the community had come close together, loyalty to the flag and to the principles for which it stands thrilled our hearts, while soft echoes from the great songs to which we had listened moved us to loftier purposes and nobler aspirations.

Yes, we milked a little later that night, but our compensation was ample for it was truly a good day for us all.

W. F. TAYLOR.

PROPER CARE OF THE BULL.

The bull is one of the neglected possessions of the average farmer. His stall is usually the dirtiest and darkest of all, and on a farm I visited last summer, the owner kept a high-priced animal penned up during the hottest days of the season. He told me that he was crying out for company; but he really needed exercise.

One of the best methods of exercising the bull is to build a strong yard of logs or planks in which he may run loose. This should be at least two rods square. A heavy block or a stump may be hung between two posts, and the animal will stand for one or two hours at a time and fight this block. While this method is not as good as a tread power machine for exercising, it will keep the animal in good healthy physical and mental condition. If every farmer would keep his bull potent, kind and quiet, not so many valuable animals would be slaughtered before the real worth became manifest.

A good ration for the bull is clover hay or mixed clover and timothy. Add to this a grain ration of eight pounds of bran and ground oats. Alfalfa will be found one of the best rations upon which to feed this animal, and many farmers say that nowhere on the whole farm have they found it a more satisfactory feed.

E. W. GAGE.

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Internal Gear Drive



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—capacity for every load—power and speed for every need—save money and make money on the farm. They speed up farm profits. You cannot afford horse hauling, you cannot afford makeshifts when you can have Republic Trucks at their low prices. Write for catalog of any model.

A New Republic Model is now ready for delivery: Model Nine Special, $\frac{3}{4}$ -ton, 128-inch wheelbase, with the usual Republic excess capacity, chassis with seat, **\$895**. Other sizes: Republic Dispatch complete with express body, canopy top, side curtains, **\$895**; 1-ton with stake or express body, **\$1195**; $1\frac{1}{2}$ -ton, **\$1450**; 2-ton, **\$1885**; $3\frac{1}{2}$ -ton Dreadnaught, **\$2750**; all prices f. o. b. factory. We build special bodies for farm use. Trucks can be equipped with hog or cattle racks.

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Where the Mitchells differ from most fine cars is in standards some call extreme.

Instead of usual margins of safety--50 per cent--the Mitchells are built to the standard of 100 per cent over-strength.

In addition to all the usual attractions, there are 31 features in Mitchells which nearly all cars omit.

We use heat-fixed finish to be long-enduring. We use extra-grade leather to last. We use shock-absorbing rear springs which never yet have broken. Thus the Mitchell excels in scores of ways which you will find important.

A 200,000 Mile Car

What we aim at is 200,000 miles of satisfactory service. Two Mitchells that we know of have exceeded that already.

We also aim at dependability under difficult road conditions. The Mitchell has won great fame in South America, in Australia, in Russia--where few cars prove enduring. In the rough-road sections of America our sales have multiplied of late.

The reason lies in our 100 per cent over-strength. Every vital part is built and tested for twice the expected strain. Part by part, our safety margins have been doubled in three years.

Over 440 parts in the latest Mitchells are built of toughened

steel. Castings are almost eliminated. Safety parts, like steering parts and axles, are all vastly oversize. Parts which get a major strain are built of Chrome-Vanadium.

Nothing Omitted

We study to include in Mitchells all the known attractions. There are 31 features rarely found in cars. These include a power tire pump, reversible headlights, dashboard engine primer, shock-absorbing springs, etc.

Our experts examined 257 show models before designing the latest Mitchells. And all their best attractions are combined in these new cars.

In these new models we have also added 25 per cent to the cost of finish and upholstery. That to give unique endurance, beauty, luxury and comfort.

Yet An Under-Price

Despite all these extras, both sizes of the Mitchell Six undersell cars of like class and size and power. The reason lies in our factory efficiency.

John W. Bate, the great efficiency expert, built and equipped this mammoth plant to produce this one type economically. He has spent millions of dollars to reduce labor cost to minimum.

We build the complete car--chassis and body--under these up-to-date methods. They have cut our factory costs in two. And those vast savings pay for this over-strength, these extra features and this added luxury.

See these new Mitchells. Compare them with ordinary sixes. See at your dealer's the list of noted engineers who have chosen the Mitchell for their personal car. See its endurance records.

When you buy a fine car for lifetime service, you will want this car. You will save much money if you get it now. You will save in upkeep and repairs. You will save by having an ideal car which you never will outgrow.

If you don't know our nearest dealer, ask us for his name.



TWO SIZES

Mitchell—a roomy 7-passenger Six, with 127-inch wheelbase and a highly developed 48-horsepower motor.

\$1525

Three Passenger Roadster \$1490

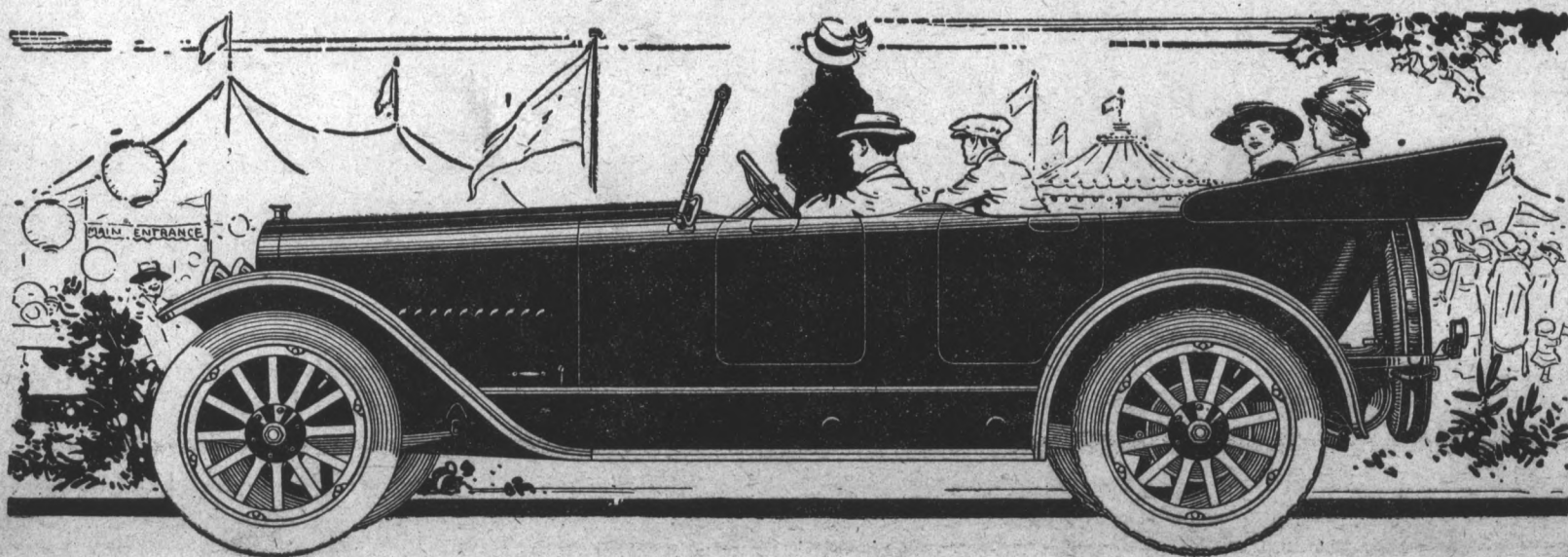
Club Roadster, \$1560. Sedan, \$2275.
Cabriolet, \$1960. Coupe, \$2135.
Club Sedan, \$2185
Also Town Car and Limousine.

Mitchell Junior—a 2 or 5-passenger Six on similar lines, with 120-inch wheelbase and a 40-horsepower motor. 1/4-inch smaller bore.

\$1250

Club Roadster, \$1280. Sedan, \$1950.
Coupe, \$1850.
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MITCHELL MOTORS COMPANY, Inc., Racine, Wis., U. S. A.



Magazine Section

LITERATURE
POETRY
HISTORY and
INFORMATION

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

The FARM BOY
and GIRL
SCIENTIFIC and
MECHANICAL

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

Food Administration and the Farmer

FOOD ADMINISTRATION as I see it, is the intelligent co-ordination of all the forces in the country to solve the specific food difficulties and problems which have been imposed by the international situation. The solution of these national difficulties depends entirely upon the co-operation of all those concerned. With our people, there can be no force used on production and no force used on consumption. There can, however, be intelligent leadership and there can be a stimulation of patriotism to effect ends for the common good. The support of this

(Herbert Hoover, United States food administrator, met the editors and publishers of 126 farm journals and chains of farm papers, in Chicago, on August 25. The purpose of this conference was to discuss the work of the Food Administration in its relation to the farmers of the nation, and to develop a closer working relation with the farm press. Editors and publishers from twenty-four states attended. It is estimated that the combined circulation represented at this meeting was over 12,000,000. Mr. Hoover's address, in part, follows):

leadership and the stimulation of this patriotism lies in the hands of the farm press in a very important way. Food Problems Same in or Out of War. I wish to give you some impressions of the situation as I see it and of the nature of the problems which naturally arise from it, and I wish to say at the outset that the majority of the food problems which have arisen in the United States and which will arise in the future, would have occurred even if we had not gone into the war. They are based on the un-

derlying economic currents and disturbance of economic forces. Our entry into the war makes the solution of these problems even easier than it would have been otherwise, because we can now summon patriotism and devotion to its solution in a degree that would not have been otherwise possible.

Shortage in European Production.

The outstanding basic facts in the food situation are:

(a) By diversion of millions of men from productive labor to war, the food production of our Allies, and of Eu-

WORLD EVENTS IN PICTURES



First-prize Winner at the Asbury Park Baby Parade.



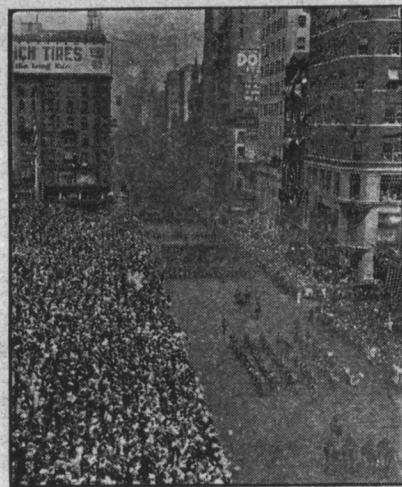
"Visiting Day" is the Red Letter Day at the Various Military Camps.



Our Little Miss is Prepared for the Colder Season.



He Trains the Wildest Horses for the United States Army.



Long Line of New York Guardsmen Marching Away to War.



Italian Princess Hears with Joy the Successes of Italian Troops.



Killed while Trying to Quiet Negro Soldiers at Houston, Texas.



Wounded French Soldiers Enroute Home, Exchanged for Wounded Germans.



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Chicken House
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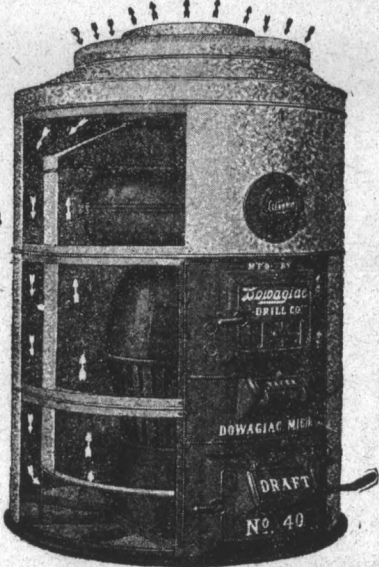
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a heat
Maker.

You cannot go wrong if you submit to us a pencil sketch of the rooms you wish to heat. We will tell you honestly and frankly if we do or do not think a one register furnace will do the work. We do not claim that a one register furnace will heat anything and everything, but we do claim, because we know, that it will heat satisfactorily the great majority of houses, and if your house is one that can be heated by our one register furnace you can save money in the first cost. You can save money in its installation. You can save money in its operation. If we have no selling agent in your vicinity we have an interesting proposition to submit. Write for full information.

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rope generally for that matter, has greatly diminished. The soil has been depleted on account of shortage of fertilizer and labor; and today we find the present harvest among our western Allies is short of the normal by 525,000,000 bushels of grain.

(b) These countries always import a considerable amount of their food-stuffs and today their markets are dislocated and many of them entirely stifled. They are thus thrown upon North America for a larger proportion of their imports, and in fact, if we are to maintain them with food during the coming year, we must export from this country 200,000,000 bushels of wheat, as against our normal export of 80,000,000 bushels. And we must furnish them with 400,000,000 bushels of other cereals as against our normal pre-war-export of under 50,000,000 bushels.

(c) The demand for more meat, shortage in fodder production, and the necessity of confining shipping to the most concentrated of foods, all tend to the depletion of the herds of Europe; and they are now making large inroads into their capital in animals. From now on they will make even larger inroads. With every decrease in shipping it becomes more logical for them to kill and eat their animals and depend upon us to replace their animal foods, than it is to import fodder in hope of maintaining their animals.

(d) The Allied countries have reduced the consumption of food stuffs by every device of which individual loyalty is capable, and of law. Their populations are now drawing food stuffs on tickets or other restraints in an endeavor to meet, so far as may be, by reduction of consumption and elimination of waste, the decreased food supplies of the world and the threatened still further shortage of shipping. This reduction of consumption, however, does not bear uniformly upon the entire population. The soldiers in the field, the men working from ten to twelve hours in the shops daily, millions of women in physical labor, require a larger percentage of protein and fat. Therefore, restrictions in consumption fall almost wholly upon the aged and upon the women and children.

Two Duties.

Such is the physical picture, and there are certain conclusions as to conduct on our part. The first is that we must by every device possible in the stimulation of production and equally strenuous endeavor in reduction of consumption and waste, provide the margins of food stuffs required by our Allies. The fact is that this is our war as much as their war, and unless we can keep the women and children of our Allies fed, the western line will surely be thrown to our Atlantic seaboard and it may be thrown in an infinitely more dangerous quarter, in the ransom of Canada as penalty for England's defeat. The other premise is one equally strong in my mind and is one of simple duty to humanity; that we should, out of our abundance and our waste, do our part in a world suffering with us to maintain an ideal and a faith which must be the foundation of the world's hope in civilization.

Increase in Animals Needed.

In production we must guide ourselves with as much forethought as we can summon to meet the physical situation which I have outlined. The gradual destruction of animal food supplies in Europe simply means that we must increase our supplies by that quota. It also means that with less demand for our fodder grains Europe can turn her production after the war toward food grains and that, as an actual fact the great economy in shipping space will necessitate, with increasing destruction, the further concentration of our food supplies to Europe more largely upon animal

food stuffs. Nor will this end with the war. This is the outstanding dominant fact which we wish to bring home to every American producer; that in his own interest, in the interest of the nation, and in the interest of the war, we must turn the face of our agriculture toward increased production of animal food and ultimately decrease our export of bread and fodder grains.

Prices and Speculation.

The shortage in the world's food supply has knocked at every door in the United States, not because of our lack of ample supplies, but because of the drain upon us into the food vacuum and the consequent increased price level. One result has been the growth of a vast mushroom of speculation and an unnecessarily higher cost of living in our industrial centers; a demand for readjustment of wage levels and thousands of disturbances in our economic life. No one has yet refuted the fact that our farmers last year received under \$1.50 per bushel for their wheat. But our consuming population bought their flour based on over \$2.50 wheat for a large part of the year. Nor are these unnecessary margins confined to wheat alone. Therefore, if we are to protect our people and maintain our efficiency in the war, we must find a remedy, so far as we may, for these evils.

Conservation.

The harvest can now probably be closely estimated, not only in our own country, but among our Allies. Therefore, we can today take stock of the world's larder. We now know with what supplies we have to face the coming year. On our normal consumption, and despite all promises of an abundant harvest in the United States, our supplies are far below our combined necessities. This is a situation that can only be met by reduction in consumption and by the elimination of waste among our people.

Due to the shortage in ships, we must confine our shipping to the most concentrated foods. This year, our program of supplies to our Allies must be wheat, meat, pork and dairy products. We have an abundance of many other food stuffs, and without hardship on the American people ought to substitute those which we have in abundance for the concentrated foods which we can export. Nor is the elimination of waste and unnecessary consumption a hardship. It is a virtue and has a vast economic importance in that we reduce the expenditure of our people in order that we may meet the burdens of war. Not alone is the world short of food; it is short of ships and it has a weekly growing shortage. Eight millions of tons of commercial shipping are in war service and 5,000,000 tons destroyed. Every week shows a shortage of from 100,000 to 200,000 tons carrying capacity. And thus the far distant markets of the world are one by one eliminated, and no matter what their abilities of food supply may be, the tangible, physical fact of their inability to transport, has the same result on our present problem as if they had witnessed a complete crop failure. Furthermore, the reactions of shortage in overseas transport does not alone affect our Allies in Europe, for we also import vital food stuffs in shape of sugar, vegetable oils and other critical supplies.

Our Own Import Problems.

Therefore, we have important problems of our own, for we must reduce our consumption of sugar; we must restrict the demands of the speculators, or else only those who can pay the price will have those vital food supplies. The shortage of vegetable oils affects our soap supply, driving the soap manufacturers to absorb animal fats; and the reaction on our whole food supply demands administration either in the direction of in-

creasing exports and diminution of consumption, or in restriction of exportation in a state of short supply. One phase of the shortage in shipping to which we must give serious heed is that certain sections of the world are continuing their production, and, being unable to pour these food stuffs into the markets, are accumulating them as against the time of peace or, alternatively, as against the time when, by extinguishing the submarine and increasing shipping, it will be possible for these food stuffs to come to market. It is worthy of consideration by our wheat growing population, that, by the first of January, there will be 300,000,000 bushels of wheat in Australia awaiting market and another 100,000,000 bushels in India, not now available to our Allies. If peace were to come, or if the submarine were to be overcome, there would no longer be a shortage in the world's wheat supply, but there would be an overstock. We have placed an embargo upon the shipment of food and other commodities from the country because, if we allow an unlimited drain from our supplies, we will face absolute shortage next spring. We must monthly take stock of our position to see that we are allowing through this embargo only what we can spare. We must insist upon the export of cheese, for instance, in place of other fats.

Why we Need Food Administration.

I have outlined these problems which are but a few of those confronting us, in order to demonstrate two things.

The first is that if we are to trust alone to the ordinary course of demand and supply, to determine price levels in this country, not only of food stuffs, but of all commodities we are faced with the great inequalities in distribution amongst our population. We are faced with the possibility of undue drainage from our supply into the European vacuum and ultimate total shortage of our necessities. We are faced with rampant speculation; for unless the opportunity for speculation is destroyed or prevented, speculation will ensue and millions of dollars of money will be made from the misery of our own people. We must obtain stimulation in production in order that we shall supply not only the Allies but our own people; and we must obtain a reduction in consumption and waste. These are the reasons for food administration.

"Administration," Not "Control."

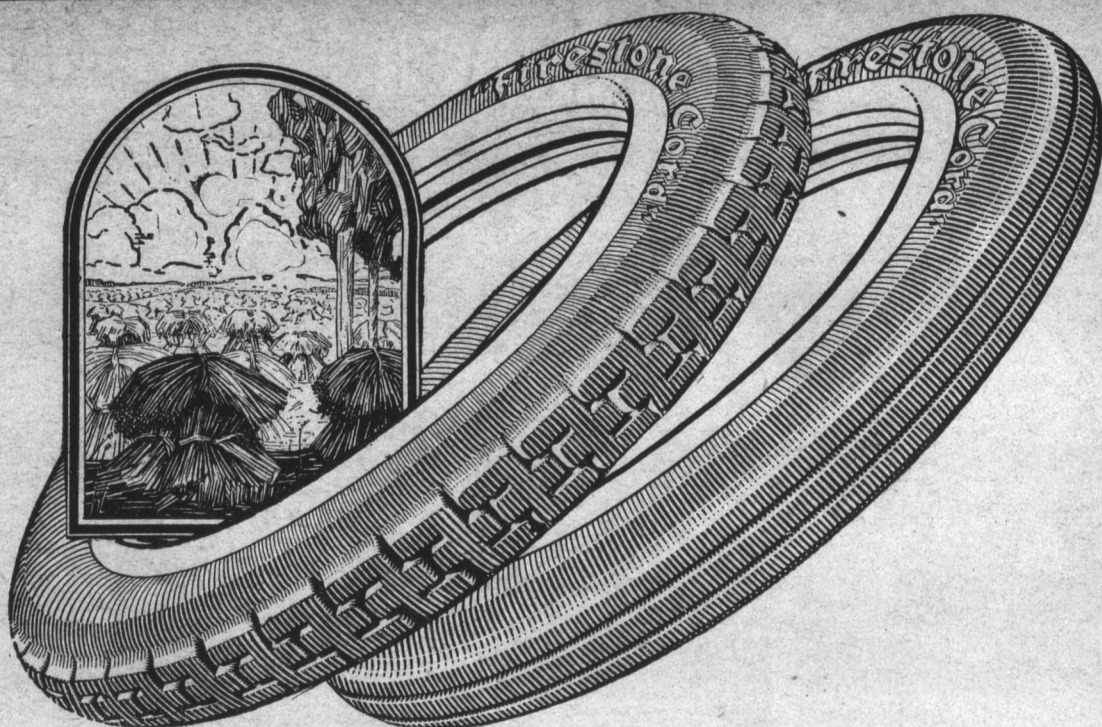
We have insisted that the title of this new government function should be "Administration" instead of "Control," for we have to approach it from an entirely administrative side, from a sense of co-operation, co-ordination, and organization. And we approach the problem with the view that every commodity is of different circumstances and requires a different organization, and therefore, presents in itself a different problem.

We have summoned to our assistance from the whole length and breadth of the country those men who are prominent in their knowledge, experience, and skill, in dealing with some special phase of this problem. With their best advice, and in conference with these people, engaged in these special activities we are endeavoring to find remedy for the evils which have grown up and, in each instance, to find a method of administration, that will ameliorate these situations one by one. There is no panacea for any problem; there is no remedy of complete satisfaction. There is only compromise on the lesser evil.

One of the first problems that is necessary to undertake to solve is that of our own breadstuffs. If you were to examine the problem with us, I think you would come to the conclusion to which we and all others have arrived.

That the normal price determination in wheat is entirely destroyed by

(Continued on page 228).



The Nation's Resources

THE same reason and judgment that makes us conserve national values in the earth, the mine and forest, governs the wise car owner in his choice of tires. This ever-growing demand for the most for the money is testing to capacity the Firestone factory. A careful use of your financial resources is bound to make you a Firestone user.

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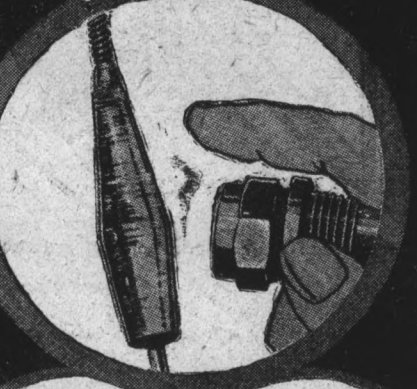
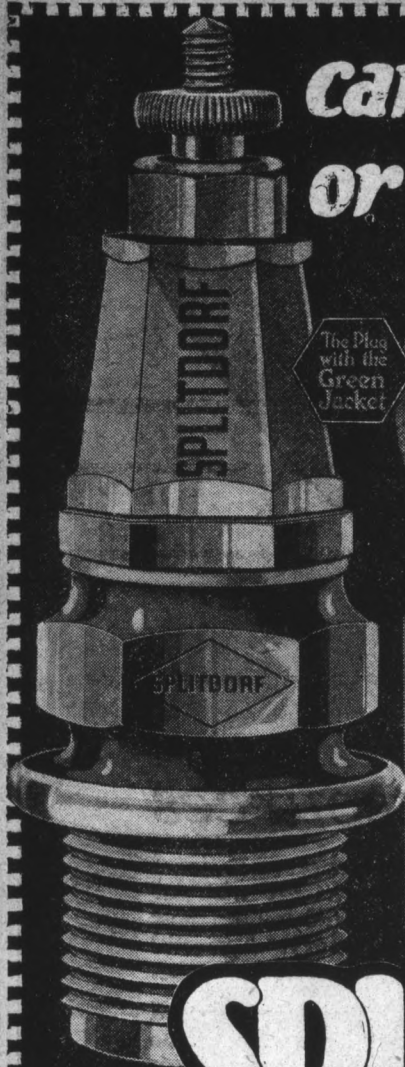
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The SPLITDORF Plug is different from all porcelain plugs in this—the insulation is made of imported India ruby mica which will not chip or crack like porcelain. This removes frequent cause of scored cylinders and also makes the SPLITDORF Plug practically indestructible.

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While doing this they must be fed and every ounce of muscle that can be requisitioned must go into use to save this year's crop. A short harvest period requires the combined forces of the two countries in team work, such as the soldier boys in France and Flanders are demonstrating.

THE COMBINED FIGHTERS IN FRANCE AND FLANDERS AND THE COMBINED HARVESTERS IN AMERICA WILL BRING THE ALLIED VICTORY NEARER

A reciprocal arrangement for the use of farm workers has been perfected between the Department of the Interior of Canada and the Departments of Labor and Agriculture of the United States, under which it is proposed to permit the harvesters that are now engaged in the wheat fields of Oklahoma, Kansas, Iowa, North Dakota, South Dakota, Nebraska, Minnesota and Wisconsin to move over into Canada, with the privilege of later returning to the United States, when the crops in the United States have been conserved, and help to save the enormous crops in Canada which by that time will be ready for harvesting.

Help Your Canadian Neighbors When Your Own Crop is Harvested

Canada wants 40,000 Harvest Hands to take care of its
13 Million Acre Wheat Field

One cent a mile railway fare from the International Boundary line to destination and the same rate returning to the International Boundary. High wages, good board, comfortable lodgings.

An Identification Card issued at the boundary by a Canadian Immigration Officer will guarantee no trouble in returning to the United States.

AS SOON AS YOUR OWN HARVEST IS SAVED, move northward and assist your Canadian neighbor in harvesting his; in this way do your bit in helping "Win the War".

For particulars as to routes, identification cards and place where employment may be had, apply to Superintendent of Immigration, Ottawa, Canada, or to

M. V. McINNES, Canadian Government Agent, 178 Jefferson Ave., Detroit, Mich.

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"Contraband" RANDALL PARRISH

Relieved of the strain, I turned to meet the questioning eyes of the girl. "That—that was better than fighting—wasn't it?" she asked almost anxiously.

"Yes; I lost my head for the moment, and could only think of reaching deck, and shouting an alarm to the cruiser."

"It was too late for that."

"Yes; we know it was now, and probably I would never have reached there alive. I am very thankful to you."

"To me!" her lips smiled, although her eyes remained grave. "Why I merely opened a door—besides even that act was supremely selfish."

"I cannot conceive how."

"You do not? Yet surely you can realize what it would mean to me to be left alone on board with—with Fergus McCann."

"He has ventured—"

"Only to my imagination perhaps. He has made no advances as—as yet. Do not think that, for really I ought not to accuse the man of this evil. Only he has alarmed me. I hardly know why. Trifles have occurred which I would never have noticed under other circumstances, but—but I have reason to fear the man."

"Sometimes a glance is more of an insult than the plainest speech."

"Yes; that must be what I mean. I so despise the creature that I shrink from even looking into his eyes. It—it was to avoid meeting him again that I locked the door."

"He talked to you, then?"

"Yes, at the table. We were alone for a moment and it was his manner which frightened me rather than any words said. In speech he seemed to be courteous enough, except that he boasted of his power on board, and tried to impress me with the thought that I was helpless except for his protection. I became so nervous I could remain with him no longer."

"And McCann, he made no effort to restrain you?"

"He had no opportunity to interfere. I left the table without speaking. He—he followed me, however, and tried my stateroom door."

"Saying nothing?"

"No; it was locked, and—and he laughed, and went away."

I crossed over, opened the port glass and looked out. The sea was specked with sunshine, but the horizon was blotted with mist, which made me suspect the brooding of a storm. I turned to again meet her eyes.

"I suspect the man is almost as much afraid of you, as you are of him,"

"Afraid of me—why?"

"Well, if you were not aboard his problem would be a much easier one to solve. The lives of none of the rest of us would weigh much in the calculation."

"And you think my life does?"

"Undoubtedly. McCann is a villain by nature; he was born with criminal instincts, which have in no wise been changed by the possession of wealth. They were fairly well developed even in the environment of New York, but when the fellow became suddenly plunged into this adventure; when he found himself utterly outside the limits of the law, with reckless followers behind, he completely ran amuck. His hatred of me, and desire for revenge, probably were the earliest factors leading to action. I doubt if he realized in the beginning any such result as this. But now he is fully awake to the peril of his position. The fellow is a coward back of all his bluff, and I do not think his criminal instincts are bloodthirsty. But he has drifted into a desperate situation, from which he

must extricate himself at any cost."

"You mean—oh, not that?"

"I mean there is but one sure solution—dead men tell no tales."

CHAPTER XXVIII.

A Plan to Save Ourselves.

TE stood with hands clasped, and arched lips, her eyes wide open with unconcealed horror, for the moment unable to utter a word.

"You—you actually think that, Mr. Hollis? You mean he would be willing to—to murder all on board to protect himself?"

"If assured such an act would bring safety, I do not believe he would hesitate at even that crime. Indeed, I have no doubt he has contemplated it; perhaps has already planned its accomplishment. To be perfectly plain, Miss Vera, it is my judgment that your presence on board presents the only problem unsolved."

"My presence. Why, he has no cause to fear me. No one knows where I am. If I never appeared alive again not a soul could ever account for my disappearance."

"True, and probably McCann is fully aware of these conditions. But he wishes you alive, not dead. That is what makes the problem. I may be mistaken, Miss Vera, but this is the conclusion I have reached. I do not say that Fergus McCann loves you; I doubt his capability of really loving anything other than himself; yet he admires you and is attracted by you; his conceit makes him ambitious to overcome your dislike, and he is not blind to the fact that you are the only daughter of a multimillionaire. Do you realize now how valuable you might be in his view?"

She crossed the narrow space of deck, and grasped my coat in her fingers.

"Oh! this is too terrible! He—he cannot imagine it possible—"

"And why not?" I interrupted. "He is all powerful on board. He judges the virtue of others by his own standard. He dreams that you might even make that bargain to preserve life."

"That I would marry him?"

"Marriage would seal your lips; would win him safety, and also your subjugation and wealth. It is a stake worth playing for surely."

"And the others? What would be the fate of you and the others if I made that hateful bargain?"

"In no way different, I imagine, from what it will be if you refuse," I said—and my hand closed on hers. "McCann has no intention that we shall ever put foot on shore. He would be a fool to permit such a thing. The crime he is already guilty of is of too serious a nature for him to run that risk. He may have to spare a few men in order to save himself, but they will be those who will not dare to talk for fear of their own necks."

"You think it all planned out?"

"In detail; McCann, Liverpool, and White know exactly what they intend doing. Their questioning of me, and their scrutiny of the chart, convinces me of this. I even believe now I could name the other men of the crew who will be in their boat, when they abandon the ship—Dugan, Dubois, Sachs, and the negro Watson, with perhaps two others I am not so sure of. Why, Miss Vera, you heard what I was compelled to assent to a moment ago. I am to pilot the Indian Chief to within fifty miles of the harbor of St. John's, timing our arrival at that point to some hour of the night. I am to give McCann notice beforehand of our arrival there, and furnish him with exact sailing directions to complete the

Auto Bandit Wounded

Howell, September 7th:

James Amstey, President of the First State Bank at Ashley, Sunday night about twelve o'clock, heard his automobile pass out of his yard. A hurried investigation showed that the lock had been broken and his six cylinder Studebaker automobile was being driven away. He reached the officers at Elsie, St. Johns, Ithaca and the Citizens' Mutual Automobile Insurance Company at Howell within a short time. It had about fifteen gallons of gas and the bandits made their escape out of Michigan, but the officers in Ohio had been notified, and a watch was kept at the filling stations. Monday afternoon the bandits questioned a farmer as to the distance to a little town; this aroused suspicion, and the marshall at Brailey was notified and he gathered an armed posse to lay in ambush. Early Tuesday morning the stolen automobile and its occupants reached Brailey and proceeded to steal gasoline; the posse opened fire; two of the bandits were wounded, (later, upon the automobile was found seventy-five bullet marks). The bandits started to make their escape but after going about six miles the car was out of gas. The automobile was recovered. James Amstey called at the office of the Citizens' Mutual Automobile Insurance Company to compliment them upon the prompt action and to receive a settlement for the damages to the car.

J. Earle Brown, of Lansing, had his car stolen out of a garage in Lansing. The thief made his escape to Rockford, Illinois, where the car was traded to a second-hand dealer and later sold. The car was insured in the Citizens' Mutual Automobile Insurance Company, of Howell, and finally traced out and a settlement obtained; the thief is now in jail.

The Company has also recovered a Buick automobile owned by Sherman Schroder, of Battle Creek, in Buffalo, N. Y. As the Company has a membership of about 28,000, it is known as the largest mutual automobile insurance company in the world among the police and officers of Michigan and the adjoining states, and is therefore giving its members the best of service, as the police and officers report the Michigan cars to the Company knowing its large membership.

course. This means that the crew expect to abandon the ship there, and take to the boats. There are enough remaining in good condition—and just enough—to carry them all, but the Indian Chief will be left with none to rescue those of us left on board in case of accident to the vessel.

"And you anticipate accident?"

"I believe the ship will be deserted in an unseaworthy condition—either with her bottom pierced, or her sea-cocks open; and that those of us left aboard will be so confined as to be practically helpless to save the vessel from going down."

"And the men in the boats will get ashore, scatter and never be heard from again. No one will ever learn what became of the Indian Chief, or that we were aboard?"

"The French cruiser will report having spoken us at sea. That will be the last word. Of course shipping circles will realize that something was wrong aboard, or the ship would not be in these northern waters, sailing under false papers, but the truth will never be made clear. Our fate will be another sea mystery, never explained."

"Some of the crew might talk later—in liquor."

"There is always that danger, and McCann is far-sighted enough to guard against it as far as possible. The most of them will never get ashore, except by accident. The few men he really trusts—men so deeply involved in the crime they dare not talk—will be in his boat; they will have the correct sailing directions, and the others will be furnished with false ones. The boats will easily become separated in the darkness. If the others are picked up it will be accidentally by some ship at sea—and there are almost no ships in this ocean. There are few flaws in the plan, as I have figured it out."

She did not answer, her eyes on my face, her expression exhibiting the horror she felt at this vivid picture which I had drawn. Then she slowly, gently, withdrew her hand from my grasp, sinking into a chair, her head bent forward.

"You—you really believe they actually plan to do all this?" she asked at last, as I remained silent.

"What else can they do? They dare not bring the ship into any civilized port. Surely you cannot believe that any crime would be too heinous for McCann to commit, if he felt it would save him from exposure and punishment, do you?"

"No; yet I can scarcely conceive of this—this wholesale murder. And what—what about me? You suggested that—that marriage might save me from this fate. Do you think so ill of me as to imagine I would ever consent to such a bargain?"

"What I may imagine has nothing to do with the case, Miss Vera. My thought, and that of Fergus McCann, is not liable to be the same on any subject. The only hope he can have of ever winning you is through threat. The opportunity is now here for him to resort to terror. No doubt he judges your nature by his own. He possesses power and can assail you with deadly peril. It is my belief that he contemplates doing so."

"That he will offer me choice of marriage with him, or death?"

"Yes, it will not be put in just so brutal a form, for the fellow has a certain polish over his villainy; but it will mean that."

"Loan me the revolver."

"For what purpose?"

"To kill the brute, if ever he dares such a proposal. Mr. Hollis, I would die before I would ever permit his touch! My God! could you think this possible of me, that I would ever be party to such a contract of dishonor? Marry him to save my life! Why, I am so ashamed I cannot look you in the face; cannot even find words to express my detestation of such a suspicion." (Continued next week).



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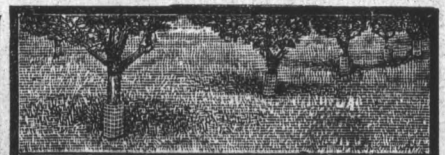
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Woman and Her Needs

Good Out of Evil

IT may seem far-fetched to look for good already in the war, but many savants claim to have found blessings arising because of it. A German writer points with pride to the fact that the war has taught them that children, women and old men hitherto considered dependent and economically worthless, may be turned into producers. And that all can live without a great many things hitherto considered necessary. In fact, if put to it, many people could survive on carrots and potato parings, eked out with excelsior breakfast food for a limited period, thus cutting out the expense of sixty-cent bacon and wheat cereals.

Few of us would care to go far along this line of "kultur," but what must be must be, and if it was necessary for the country's welfare we would do it in a pinch. However, let us be thankful that we can still get along without breaking our hardly-won child labor laws, and if we absolutely refuse to do it, we need not yet keep the one "meatless and wheatless day" a week.

We have not yet got to that extreme in looking for the good arising from the war, but it is along the line of doing without that the first change is noticed. There is the woman who last year told me quite emphatically, that as the only thing we really get in this world is what we eat, she intended to have what she wanted to eat so long as she could find a cent to buy it. She would do without clothes and movies before she'd go without both bacon and eggs for breakfast, or the first strawberries, even if they were thirty cents a pint and tasteless things at that.

I ran across her the other day at a fruit stand. She looked longingly at twenty-five-cent-a-dozen peaches and sixty-cent honey-dew melons, and then bought a half peck of cooking apples. "We just love applesauce," she remarked enthusiastically. "Besides, this will go three times as far as one melon, and a dozen peaches would only be an aggravation. I never used to think of these things, but since my brother has gone to France I can't help thinking that maybe if I go with less here, he'll be able to get more over there."

She is matched by the woman who hated sewing and mending so badly that she would never repair an old garment, to say nothing about making a new one. She was constantly buying new, shoddy clothes, because as soon as a rip or worn spot developed she gave the old garment away, and thus never could get enough money ahead to buy anything really good. She has joined one of the night school sewing classes, and is buying really wearable cloth to make into garments which she promises to keep in repair.

"Everything is so high now, and the stuff isn't worth carrying home," she explained. "I thought if I could learn to sew and make my own things I'd get clothes a lot better than I could buy ready-made. Our club has been sewing for the Red Cross all summer and it wasn't so hard. If I can make shirts for soldiers, why can't I make kitchen dresses for myself? And if I can make a dress out of percale or gingham, why can't I make one out of silk? Sewing isn't so bad, after all."

There are other women, too, who never thought of anyone but themselves in their whole lives. Someone has gone to France, or to Grayling or to Fort Sheridan. Suddenly they have realized that life is not exclusively for pleasure. Thought for others has developed at last, and, rather blindly and

helplessly, they are reaching out to see what they can do. They have started right, and hereafter life is going to be more real to them, and a lot more interesting.

It's a terrible thing to reflect that it took a world disaster to wake some of us up. But so long as it did, and the disaster has proven an awakener, may we not call that good which has come of the war? The world will never be the same to any of us again, but it is going to be a more worth-while place, for we are going to give more thought to the other fellow, and a little less to ourselves.

A letter from a Canadian friend the other day bore this sentence: "I sometimes wonder if we Canadian women will ever laugh again. All youth and jollity has been wrung from me these last three years, and I often wonder if I can ever smile after it is all over."

I hope this will not be the experience of any of my readers, but if we do not go to that extreme we are bound to find changes in many ways, even after the terrible present has become the past.

DEBORAH.

SPECIAL CANNING SUGGESTIONS.

Mold on Canned Goods.

Mold may develop on canned goods if the seal is defective, if after sterilizing the tops are removed from the jars to replace the rubber rings, or if the jars are kept in a damp place where the rubbers may decompose.

Shrinkage During Sterilization.

Shrinkage may occur during sterilization because of improper and insufficient blanching and cold-dipping, careless packing, poor grading, sterilizing for too long a period, or lack of judgment in the amount and size of product put into the container.

Blanching Greens.

The proper way to blanch all greens or potherbs is in a steamer or in a vessel improvised to do the blanching in steam above the water line. If this is done, a high percentage of mineral salts and volatile oil is retained in the product.

Special Requirements of Corn, Peas and Beans.

Canned corn, peas and beans may show no signs of spoilage, and still, when opened have a sour taste and a disagreeable odor. This specific trouble is known to the canner as "flat-sour" and can be avoided if the canner will use fresh product, that is, one which has not been gathered for more than five hours, and will blanch, cold-dip, and pack one jar of product at a time, and place each jar in the canner as it is packed. The first jar will not be affected by the extra cooking. Rapid cooling of these products prevents over-cooking, clarifies the liquid, and preserves the shape and texture.—Michigan Agr. College.

CANNING PRECAUTIONS FOR CORN.

"Corn is one of the vegetables that must be handled carefully if a satisfactory product is to result," says Roberta McNeill, of Purdue University. "It must be in prime condition to start with; between the milk and the dough stage is best. If under-ripe it is tasteless, has a poor appearance and a tendency to sour. If over-ripe it is dry and discolors when processing. The corn should be canned within half an hour after gathering, if possible. If pulled with husks and considerable of the shank on it will stay fresh



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No. 2168—A Practical Apron Model. Cut in four sizes: Small, 32-34; medium, 36-38; large, 40-42; and extra large, 44-46 inches, bust measure. Size medium requires 6½ yards of 36-inch material. Price, 10 cents.

No. 2170—An Ideal House Dress. Cut in seven sizes, 34, 36, 38, 40, 42, 44 and 46 inches, bust measure. It requires for a 38-inch size, 6½ yards of 36-inch material. The dress measures about three yards at the foot. Price, 10 cents.

somewhat longer. Corn that has been gathered for some time is more likely to spoil. More salt than is necessary for flavoring is likely to produce a sour taste. A small amount of sugar—about one teaspoon to the quart—improves the flavor. Very hard water tends to make the corn yellow. It is also made yellow and the flavor impaired by over-cooking. To avoid this, after blanching for five minutes and cold dipping, have cans hot, pack corn in cans as quickly as possible, cover with hot water and place in water bath at once. At the end of three hours remove at once, tighten cans and cool quickly, avoiding a direct draft to prevent cans from breaking. Corn swells when processing, therefore, at least half an inch of space should be left at the top of the can. The liquid in the can will be clearer and the corn will be a better texture and more easily sterilized if it is shaken into the cans rather than squeezed in. A solid mass of corn prevents circulation in the can and makes it more difficult for the heat to penetrate. Good corn should be a good color, not yellow or brown, have the kernels distinct and the liquid clear. If corn spoils, it should not be reheated, and used, as the spoiling may be due to the growth of bacteria."

LIBERTY BONDS AN INVESTMENT.

Mrs. George Bass, of the Woman's Liberty Loan Committee, is touring the rural districts of the country in behalf of the Liberty Loan.

She is speaking twice a day at Chautauqua assemblies and meeting daily hundreds of women from the farms.

"The experience of other countries at war has been that the women of the smaller towns and farming districts have been slower to become aroused than have their city sisters," said Mrs. Bass, "but that, once aroused, they have accomplished some of the most important work of women in the conduct of the war. The women from the farms of our nation are taking a great interest in the nation's problems. Now that they realize that the war must be won as soon as possible, these women are finding what they can do to promote its speedy success.

"The practical value of the Liberty Loan is making a special appeal to farm women. They see that the purchase of a Liberty Bond is a good investment as well as a patriotic deed, for Liberty Bonds are United States government bonds, and a higher rate of interest than that given by most banks for savings accounts. The income from the bonds is not taxable, and the security of the bond is impregnable, being guaranteed by the resources of the government of the United States. Because the women of the country districts have a habit of analyzing problems they have been quick to see that they have a choice between bond purchase and taxation. They know that the money paid in special war taxes is insurance rather than investment, but that government bonds will pay them interest."

A UTILITY SHOWER.

BY GRACIA SHULL.

A shower was given recently for a bride-to-be, as the young couple intend going to housekeeping at once. A broom, a dustless mop, a blue and white bath mat and all sorts of utility gifts were given. The way of presenting the gifts was unique and the occasion passed off merrily.

In the first place we tied a coat hanger to the broomstick near the upper end. Then we inverted the dustless mop and fastened it to the broomstick. An aluminum saucepan was placed just beneath the mop and a black dustcloth drawn tight over the bottom of the saucepan. With chalk we drew the features of a negro "mammy" on the dustcloth. The fringe on the mop made a perfect head of hair.

Partly concealing the hair was a bannana dust cap. Draped around the broomstick was the blue and white checked and striped bath mat and over this, suspended from the coat hanger, we placed a huge sleeve apron with deep pockets. Over this and tied around the waist was a clothespin apron. We filled the pockets of both aprons with packages of tacks, clothespins, a can opener, tack hammer, screw driver, egg beater, graters, small ladles, tack puller, paring knife, washcloths, roll of paper towels and many other things which the new housewife may always find useful.

The bride-to-be was required to undress the "negro mammy." An elegant clothes hamper with cover was provided to hold the gifts. The hamper was a gift from the bridegroom's mother, and was greatly appreciated. A dainty luncheon was served. Afterward a dozen new clothespins, a glue pot, baby ribbon, crepe paper and one dozen cupid's faces were brought forth by the hostess and the twelve ladies present were required to each make a doll from the material provided. The one making the prettiest doll and the one making the "funniest" doll, each won a prize—bouquets of carnations. An honor prize—a shower bouquet of snow drops, was given the bride-to-be.

BOTTLING FRUIT JUICES.

Wash your bottles. Set in pan of water to heat and keep hot. Fill wash-boiler with enough water to reach to necks of bottles and heat. Dip corks to bottles in melted paraffin and bake in oven for several hours.

Press juices from fruits, in cider, fruit, or improvised press. Heat in acid-resistant kettle, such as porcelain, graniteware, crockery or aluminum. Pour juice into hot bottles, set in boiling water in washboiler on false bottom, submerge up to necks. Put cover on washboiler and boil for twenty-two minutes. Remove bottles, immediately press corks in position. Replace bottles in washboiler and boil again for twelve minutes. Remove and lay on sides to cool. Dip corked end in melted paraffin. Store in cool, dry, dark place.

HOT APPLES FOR BREAKFAST.

The Food Administration suggests a quick and economic way of preparing apples for breakfast. Slice from the core, without peeling them, into a deep baking pan, sprinkling very lightly with sugar, add one-third cup of water, just enough to prevent burning, cover closely and set on top of the stove to steam tender. As soon as done, remove cover, sprinkle with brown sugar and set on top rack in hot oven to crisp over. Serve piping hot.

Apples prepared in almost any fashion, if served hot with meat make an excellent dinner dish. Too much sugar will spoil the dish and change it into a dessert. Hot stewed Damson plums are particularly good with chicken, and hot peaches add a new zest to steak or chops.

To prepare the peaches, select ripe, perfect fruit, peel, but do not cut from seed, and cook until tender, in water to which a little sugar has been added. Serve at once with the meat course. Do not add much sugar.

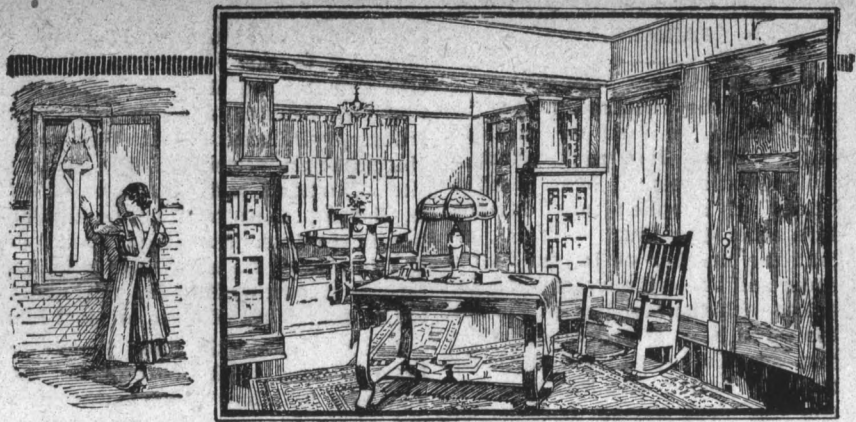
TESTS FOR DRIED APPLES.

If beads of moisture come out and the apples become very sticky, the temperature is too high.

From two to two and one-half hours are sufficient for drying apples with artificial heat at temperature given.

Apples are sufficiently dry when they give the following tests: 1. Impossible to press water out of the freshly cut ends of the pieces. 2. Sufficiently elastic not to break when pieces are rolled tightly.

Always cook slowly in water in which they are soaked.



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No. 2192—Girls' Coat. Cut in five sizes, 6, 8, 10, 12 and 15 years. It requires for a 14-year size, 4½ yards of 54-inch material. Price, 10 cents.

No. 2004—Junior Dress. Cut in three sizes, 12, 14 and 16 years. It requires 5½ yards of 36-inch material for a 14-year size. Price, 10 cents.



No. 2175—Dress for Misses and Small Women. Cut in three sizes, 16, 18 and 20 years. Size 18 requires 6¾ yards of 44-inch material. The skirt measures about 3½ yards. Price, 10 cents.

No. 2184-2187—A Charming Three-piece Suit. Coat-waist 2184 cut in seven sizes, 34, 36, 38, 40, 42, 44 and 46 inches, bust measure. It requires 2¾ yards of 36-inch material for the waist, and 3¾ yards for the blouse, for a 36-inch size. Skirt 2187 cut in seven sizes, 22, 24, 26, 28, 30, 32 and 34 inches waist measure, and requires 3¾ yards of 36-inch material for a 24-inch size. The skirt measures about 2½ yards at the foot. Two separate patterns, 10 cents for each pattern.

FOOD ADMINISTRATION AND THE FARMER.

(Continued from page 223).

disruption of the world's commerce;

That, while we face on one side, shortage of supplies, such shortage might be extinguished over night by the flood of supplies now dammed back in other quarters;

That the number of buyers in our markets and the ordinary equalization of price, with the supplies of the rest of the world have disappeared;

That speculation in this particular commodity during the last year was one of the most terrible burdens our consumers had to bear.

I think you will agree with me that no half measures are possible and the only protection to the producer on one side from possible gluts by shortage in shipping, from possible floods of supplies, due to ending the submarine, or to peace, and protection to the consumers on every side from speculation lies in the solution we have proposed which is that the President should summon a commission composed of the best intelligence in this country, representing in actual majority the producers themselves, and lay upon that commission the national duty of determining what would be a fair price for this year's harvest with a just return to the farmer. We should then devote the whole of our administrative authority to the maintenance of these prices throughout the year. And in order to be sure that no speculation enters into this situation, we should so organize the distribution of our wheat and flour that the speculator has no door, not even a crack, through which he may enter. We must see that farmers' prices reach the consumer with only the proper and normal cost of distribution.

To effect this, we have organized a corporation because the ordinary form of government accounting and finance is ill adapted to the ordinary course and custom of trade. In this time, we must eliminate all "red tape" and take all short cuts which we may to arrive at our ends. The corporation created is simply an accounting organ. It is simply an instrument of the Food Administration and created in order that we should have less disturbance to our trade custom. It is being operated by volunteers—by men who have entirely dissociated themselves from the business of grain trading and given their services to the government for the war.

Other Commodities.

Time does not permit me to traverse the whole of the administrative measures proposed for each of the commodities. Many of them are but partly developed and require further and more widely extended conferences with producers and those specializing in these branches, in order that they may be properly and safely found. I do wish, however, to take a few minutes to discuss some broad aspects of agricultural production as I see them. For some years I have given much of my life to the study of economic problems, and making no pretense of mastery. I merely present to you a few views for your own consideration. In the first instance, during the past twenty five or thirty years, we have had an undue migration from the farms to the towns. That migration has been founded on the basic economic fact that agriculture has been less profitable than industry. In fact, a large part of our agricultural production has been based on sweated labor. There have been other contributing causes: the depletion of virgin soil and lack of knowledge and experience in its re-fertilization. Even if this war had not come, we were in a few years due for an economic revolution; for our productive capacity in food stuffs has fallen behind our productive capacity in industry. The war has precipitated this question

upon us; for with the reduced consuming power of the world's population, due to the destruction of property and life, we shall have after the war less demand upon industry, and industry will have become less profitable; but an account of the destruction of animals and exhaustion of soil in Europe, there will be no diminution in the demand for food. Therefore, if I interpret the signs correctly, the farmer is coming into his day and it is the duty of all of us to support him.

Another economic force which we have to meet is the cost of the war and the inflation which must grow out of its finance. For these causes, the prices of commodities will rise steadily through the course of the war. The best we can hope is to guide the relative increases in order that their disproportion shall not cause undue hardship and that they shall not give opportunity for vicious speculation. The farmer must be protected eventually in what he pays for his supplies with the industries in the course of his food.

I have mentioned these problems with many others that I might bring before you matters with which we have to deal and the necessity which we feel for the co-operation of the agricultural press in order that this work may be interpreted rightly; that our endeavors to solve these problems as they arrive may have a properly considered discussion; that you may tell the producer as to the sincerity and design of our efforts; that you may interpret to us his position; that we may impress upon you the problems we have to face in order to elicit your co-operation and support.

I will make one final observation. I have spent the last two and a half years in the midst of this war. I have had the fortunate position of intimate daily association with armies, with governments, with the tyranny, misery and the backwash of battle. I have witnessed the operations of the social system and the aspiration of the ruling classes in Germany in their daily results and their ultimate intention. It is no loose statement that we face a race of people under a government intent upon mastery of the world. The war seems far away to most of our people. But as surely as we were fighting for freedom in 1776 we are fighting for our national existence and our national faith, this day and month, 1917.

We are fighting a race of people given to efficiency and organization, disciplined for fifty years in development and preparation for an hour of world domination. If our loose democracy, if our ideals of individual liberty and action cannot be co-ordinated in such a manner that we may defend ourselves, our independence will surely not survive for another twenty-five years.

The Germans have not only estimated our disintegration, but they have calculated upon us as a people incapable of organization. They have put 10,000,000 into the field from a population of 65,000,000 and they have supplied them with food supplies from an area not much larger than the state of Texas, and they have maintained their civil population in health and devotion during the same time. They have been able to do this by their willingness to discipline on one side and their imposition of authority by the rigor of law on the other. Every German farmer today plants exactly the seed and exactly the field in which he is directed. On harvest, at the instructed moment, he hands over his products at prices fixed for him and receives back his food stuffs on tickets which are allowed to him from day to day.

We have no desire for such an organization. It is against every instinct of our people and it is opposed to the instinct of democracy. To adopt it,

would be to yield ourselves to autocracy within our borders. There is another solution. There is a solution. Democracy can voluntarily organize itself from the bottom up; that by inspiration as to the problem with which it is confronted, and as to the methods by which they may be solved by self-imposed discipline, by self-elected leadership and organization, it can find solution and defend itself. This is the ideal and the intention of the Food Administration. If we fail on this line, we fail because democracy does not possess in itself the efficiency to defend itself.

I resent the statement that the Food Administration is dictatorship. I have seen the suffering of 10,000,000 people, under the wrongs of dictatorship. Food Administration as much as any other function of democracy must be founded on the consent and good will of the governed. It is for this reason that in our office in Washington not a day goes by but from two to ten conferences with the producers, with distributors, with specialists, take place in order that with the combined wisdom of all, we may find solutions to the difficulties that confront us. The Food Administration must be the combined work of thousands. It is beyond any one man.

So that in coming here to meet you, I come with the simple proposal that you voluntarily join with us that we may jointly and with the best intelligence that we can mutually bring to bear, all of us, contribute to this prime duty of every loyal American this day. We as a nation, are going to do our duty in this our hour of trial. That is the supreme test of our willingness to sacrifice and to serve.

ASSESSMENT OF DISCOUNT AGAINST WHEAT.

It has been brought to the attention of the United States Department of Agriculture from several sources that, in certain parts of the country where this year's crop of wheat is now being moved, the country grain dealers are assessing the farmers a discount against all wheat purchased, contending that such assessment is mandatory by reason of the official grain standards of the United States for wheat under the United States grain standards Act. Apparently the contention on the part of the country grain dealers is based upon the item "dockage" contained in the official standards. From information received by the department it appears, however, that the discount is actually an arbitrary assessment in the interest of the buyers, and is neither on the basis of the official standards nor required or contemplated by the Act or the regulations thereunder.

The primary purpose in the establishment of the official grain standards of the United States was to provide a basis whereby parties to transactions involving the purchase and sale of grain shipped or delivered for shipment in interstate or foreign commerce might, through being able to obtain a correct application of such standards, arrive at the actual value and make settlement accordingly. The standards for wheat do not provide for any arbitrary assessment for dockage. They do provide for the determination of the amount of sand, dirt, weed seeds, weed stems and certain other matter, called dockage, which actually may be present in a lot of wheat, the amount of which, if in excess of one-half of one per cent by weight is to be stated in terms of the actual percentage as a part of the grade designation of the wheat. This is called the dockage system of grading and has been in use for many years in the northwestern states prior to the adoption of the official standards.

The transactions in question appear to be purely local, not involving interstate commerce, and are perhaps con-

ducted in a way not within the prohibitions of the Act. Nevertheless, the Department of Agriculture is investigating the matter and will be glad to have any facts which may be of value. It will do everything in its power to bring about the discontinuance of misrepresentation based on the Act or the standards thereunder.

REPORT OF STOCKS OF FROZEN POULTRY.

Total Poultry.

The total stocks of frozen poultry reported by 210 storages on August 1, 1917, amounted to 48,588,865 pounds, while the total stocks reported on July 1, 1917, amounted to 55,243,568. The reports of 127 storages show stocks of 32,774,632 pounds on August 1, 1917, as compared with 7,031,998 pounds on August 1, 1916, an increase of 366.1 per cent. The reports show that the stocks decreased 14.5 per cent during July, 1917, while they increased 3.8 per cent during July, 1916.

Broilers.

The total stocks of broilers reported by 116 storages on August 1, 1917, amounted to 2,885,229 pounds, while the total stocks reported by 126 storages on July 1, 1917, amounted to 3,769,671 pounds. The reports of 66 storages show stocks of 1,699,368 pounds on August 1, 1917, as compared with 317,435 pounds on August 1, 1916, an increase of 435.3 per cent. The reports of 104 storages show that the stocks decreased 38.2 per cent during July, 1917, while the reports of 58 storages show stocks increased 77.6 per cent during July, 1916.

Roasters.

The total stocks of roasters reported by 112 storages on August 1, 1917, amounted to 4,657,985 pounds, while the total stocks reported by 123 storages on July 1, 1917, amounted to 5,231,397 pounds. The reports of 56 storages show stocks of 3,087,388 pounds on August 1, 1917, as compared with 242,119 pounds on August 1, 1916, an increase of 1175.2 per cent. The reports of 105 storages show that the stocks decreased 35.3 per cent during July, 1917, while the reports of 52 storages show stocks decreased .64 per cent during July, 1916.

Fowls.

The total stocks of fowls reported by 124 storages on August 1, 1917, amounted to 1,822,090 pounds, while the total stocks reported by 133 storages on July 1, 1917, amounted to 2,033,019 pounds. The reports of 78 storages show stocks of 1,167,134 pounds on August 1, 1917, as compared with 390,929 pounds on August 1, 1916, an increase of 198.6 per cent. The reports of 108 storages show that the stocks decreased 10.1 per cent during July, 1917, while the reports of 63 storages show stock decreased 0.5 per cent during July, 1916.

Turkeys.

The total stocks of turkeys reported by 119 storages on August 1, 1917, amounted to 3,343,729 pounds, while the total stocks reported by 129 storages on July 1, 1917, amounted to 3,639,182 pounds. The reports of 66 storages show stocks of 1,356,431 pounds on August 1, 1917, as compared with 149,419 pounds on August 1, 1916, an increase of 807.8 per cent. The reports of 107 storages show that the stocks decreased 9.3 per cent during July, 1917, while the reports of 59 storages show that the stocks decreased 17.3 per cent during July, 1916.

Miscellaneous Poultry.

The total stocks of miscellaneous poultry reported by 171 storages on August 1, 1917, amounted to 35,879,922 pounds, while the total stocks reported by 184 storages on July 1, 1917, amounted to 40,570,300 pounds. The reports of 99 storages show stocks of 25,464,311 pounds on August 1, 1917, as compared with 5,932,096 pounds on August 1, 1916, an increase of 329.3 per cent.

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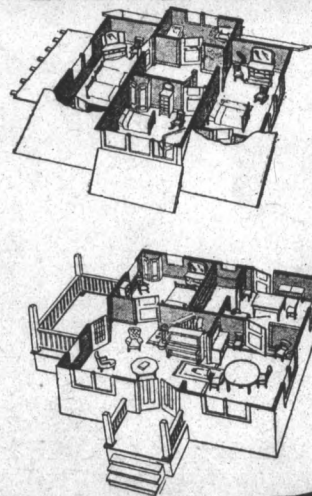


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Markets.

GRAINS AND SEEDS.

September 11, 1917.

Wheat.—Prices are being maintained on a parity with those established by the federal government. Being guaranteed against loss through a price decline, farmers are not marketing the grain as liberally as usual, owing to the heavy demands upon their time in harvesting, threshing and seedling. Flour consumption has increased in every quarter, and most mills are operating twenty-four hours to keep up with orders. Because of small deliveries the millers are finding it difficult to secure sufficient grain to supply their current needs. One year ago No. 1 red wheat was quoted at \$1.50½ per bushel. On Tuesday No. 2 red wheat was quoted locally at \$2.19; No. 1 white \$2.17; No. 2 mixed \$2.15 per bushel.

Corn.—This cereal is scarce and the market is strong, with prices advancing. Although the government report indicates a bumper crop, frosts over a large area of the corn belt have eliminated millions of bushels from merchantable grades. One year ago No. 3 corn was quoted at 87c per bushel. Last week's Detroit quotations were:

	No. 3	No. 3
	Mixed.	Yellow.
Wednesday	2.10	2.12
Thursday	2.13	2.15
Friday		
Saturday	2.18	2.20
Monday	2.23	2.25
Tuesday	2.28	2.30

Oats.—Farmers are not marketing enough of this grain to meet the needs of the trade. Exporters have been busy taking the oats, which has aided materially in stiffening values at a time of year when they are usually easy. Frosts will likely aid this market indirectly by reducing the corn harvest. One year ago standard oats were quoted locally at 48½c per bushel. Last week's Detroit quotations were:

	No. 3	Standard.	White.
Wednesday	59	58	58½
Thursday	59½	58½	59
Friday			
Saturday	61½	61	61
Monday	63	62½	62½
Tuesday	63	62½	62½

Rye.—Market steady, with both cash and September at \$1.85 for No. 2.

Beans.—Until Tuesday there was very little activity in this trade. Dealers are now anxiously awaiting reports of the effect of frost upon the crop. The cold weather has given a decidedly bullish tone to the deal. Cash beans are quoted locally at \$7.25; October at \$6.50. Chicago market rules steady, with Michigan hand-picked pea beans at \$7.25; red kidneys at \$6.25.

Seeds.—Prime red clover \$12.85 per bushel; October \$13.75; alsike \$12.50; timothy \$3.90.

FLOUR AND FEEDS.

Flour.—Jobbing lots in one-eighth paper sacks are selling on the Detroit market per 196 lbs., as follows: Best patent \$11.80; seconds \$11.50; straight \$11.20; spring patent \$13.80; rye flour \$11.30 per bbl.

Feed.—In 100-lb. sacks, jobbing lots are: Bran \$36; standard middlings \$40; fine middlings \$45; cracked corn \$86; coarse corn meal \$81; corn and oat chop \$65 per ton.

Hay.—In carlots at Detroit: No. 1 timothy \$16.50@17; standard timothy \$15.50@16; No. 2 timothy \$14.50@16; light mixed \$14.50@16; No. 1 mixed \$14@14.50; No. 1 clover \$13@13.50.

Pittsburg.—No. 1 timothy \$20.75@21 per ton; No. 2 timothy \$19@20; No. 1 light mixed \$18.50@19; No. 1 clover, mixed \$17.50@18; No. 1 clover \$18@18.50.

Straw.—In carlots, on track Detroit, rye straw \$10.50@11; wheat and oat straw \$9.50@10.

DAIRY AND POULTRY PRODUCTS.

Butter.—Demand active and market firm at 42½c for fresh creamery extras. Fresh creamery firsts 41@41½c.

Elgin.—Receipts are holding up well and demand continues good; 42½c seems to be a fair basis.

Chicago.—Market firm. Prices are higher than last week. Creamery extras are quoted at 42½c; extra firsts 42c; firsts 40½@41½c; packing stock 35½c.

Eggs.—Eggs are in fair supply and steady. Prices are unchanged. Fresh firsts were quoted at 36@38c a dozen.

Chicago.—Feeling continues firm at advanced prices. Fresh Michigan firsts sell for 38@39c; ordinary firsts 36@

37c; miscellaneous lots, cases included 35@38c.

Poultry.—Supply light and demand good. Spring chickens 27@28c; Leghorns 23@25c; hens 24@27c; ducks 24@25c; geese 16@17c; spring geese 18c per lb.

Chicago.—A good demand exists and offerings moderate. Fowls sell from 22½@23½c; spring chickens 24c per lb; ducks 22c; geese 15@16c.

FRUITS AND VEGETABLES.

Fruits.—Plums 65c per peck basket; huckleberries \$3.75@4 per bushel; peaches \$3.25 per bushel for Elbertas.

Chicago.—Pears, Clapp's Favorite, \$5 per bbl; Howell \$1@1.25 per bushel; peaches, Michigan St. Johns \$1.75 per six-basket case; plums, Michigan's Burbanks \$1 per 16-qt. case.

Apples.—At Detroit Harvest apples are quoted at \$4.50@5 per bbl. At Chicago, Michigan Duches sell for \$1@1.25 per bushel, or \$3.50@4 per bbl; Astrachans \$3@3.50.

Potatoes.—Potatoes are in demand at \$1.50 per bushel. At Greenville the farmers are receiving 90@93c per bu. Chicago potatoes sell for \$1.10@1.30 per bushel.

GRAND RAPIDS.

The egg market has advanced to 37c and dairy butter is quoted at 35@36c. Potatoes early this week brought an average price of \$1.15 and tomatoes \$1@1.25 per half-bushel. Frost damage is reported on low grounds. In the fruit line Duches apples are bringing around \$1; plums and pears \$2, and peaches \$2.50@3. The mills are quoting wheat at \$2.05; new oats 65c; corn \$2.20; rye \$1.60; barley \$1.40; beans \$6.50@7. In live poultry, live fowls are worth 17@20c.

DETROIT EASTERN MARKET.

The market was crowded Tuesday morning with buyers and sellers. The prices were ruling firm to higher. Tomatoes range from \$2@3 for ripe, and \$1@1.75 for green. Potatoes \$1.60@1.80; cucumbers \$3@7 per bushel, according to size; string beans \$2@2.75; pears \$2@2.75; plums \$2.25@3.50, with the bulk at \$2.75; apples \$1.50@2.25; carrots 75c; cabbage 45c; eggs 48@50c per dozen; butter 48c; loose hay \$14@18 per ton.

LIVE STOCK MARKETS.

September 10, 1917.

Buffalo.

Receipts here today as follows: Cattle 215 cars; hogs 45 d. d.; sheep 22 d. d.; calves 1000 head.

With 215 cars of cattle here today the quality was very bad. The best shipping cattle and what few good butcher cattle were here sold a quarter higher, but the bulk of the medium and common stuff, which made up the most of the run, landed at about steady prices. We would advise light shipments for next Monday as that is the Jewish New Year and a good share of our cattle go to the Jews, and if we get a liberal run here next Monday with them out of the market we are bound to have a very mean trade.

We had close to fifty double decks of hogs today, market was strong, 10@15c higher, but trading rather dull and a few of the late arrivals are going over unsold. There were some very choice hogs here today, carrying both weight and finish, that sold at \$19.15, the bulk from \$19@19.10; pigs and lights \$18@18.25; roughs \$17.50@18; stags \$14@16. Markets high all over the country today and looks like we should have at least a steady market for the next few days.

With a light run of lambs today our market opened up active and prices 50c higher than the close of last week. All sold and we look for shade higher prices balance of the week.

Lambs \$17.50@17.65; yearlings at \$12.50@15; cull to common \$12@16.50; wethers \$11.50@12; ewes \$11@11.50; bucks \$7@9; best calves \$16.75@17; common and light \$13.50@16; heavy \$12@15; grassers \$6@8.50.

Chicago.

September 10, 1917.

Cattle. Hogs. Sheep.

Receipts today.. 29,000 14,000 19,000
Same day 1916.. 26,320 26,134 18,398
Last week..... 72,798 60,076 86,076
Same wk 1916.. 33,643 64,728 63,945

Another week opens with too large offerings of cattle, including about 12,000 northern rangers. It was the poorest lot of cattle received in any day this year, and lots that were not desirable sold 15@25c lower. On the other hand, well finished beefs went higher than ever, \$17 being paid again, while later in the day there were sales of about half a dozen carloads of fancy steers of good weights (the average weights ranging around 1400 to 1500 lbs.), at \$17.25@17.40. Hogs were in

such meager supply that sellers were able to put prices 25c higher, with a top at \$18.80. Hogs marketed last week averaged 238 lbs., or five lbs. more than a week earlier and 11 lbs. more than a year ago. The lambs received embraced a large number received by the packers direct from Omaha. Prices were firm, and the best feeding lambs sold up to \$17.75.

Cattle established new records last week, the best beefs undergoing advances of 50@75c. Top was \$17. Receipts were unusually large and ran mainly to grass-fed lots which, because of the supply sold 50c lower. Native steers sold at \$10@15.25; choice to extra beefs \$16@17, while a good class sold at \$14 and upward, a medium grade at \$12 and over and ordinary to fair light-weight killers at \$8@11.95, and small scattering sales of inferior little steers at \$6.20@7.50. The best class of yearlings brought \$16@17, good lots \$14.25 and over, and sales down to \$11@12 for common to fair yearlings. Low priced grassy steers like most of the range cattle, were fully 75c@1 lower and, aside from a few of the better class, cows and heifers averaged 50c lower. Butcher stock had an outlet at \$6.50@10 for cows and \$6@12.40 for heifers, with cutters purchased at \$5.60@6.45, canners at \$4.90@5.55 and bulls at \$5.50@10.50. Cattle were active sellers, with light vealers taken at \$15@16 and the heavy calves at \$6.50@11. Stockers and feeders were active at lower prices, with more offered, stockers selling at \$6.50@8.90 and feeders at \$8.35@10. Western range cattle sold at \$6@14.15.

Hogs were in good demand last week. Prices continued to rule extremely high. Choicer lots were firmer than ordinary to fair packing grades. The impression prevails that the advance in hogs has reached its limit, but any return to normal prices is evidently a long way off. At the week's close hogs brought \$16.50@18.50, one carload of 240 lbs. at \$18.65. Pigs brought \$11.50@16.40. A week earlier hogs brought \$16.75@18.75.

Sheep, yearlings and lambs were in lively general demand last week, with feeders taking the best range lambs at higher figures than ever before. Shipments of feeding lambs from here to feeding districts were the largest seen in a long time, and breeding ewes were much wanted. Closing prices were: Lambs \$11.50@17.60; best native lambs \$17; feeding lambs \$17@17.60; yearlings \$11@14; wethers \$10.50@12.75; ewes \$4.50@11.35; breeding ewes \$9.50@17; bucks \$8@9.

Only 4796 horses were marketed here in August, comparing with 23,896 a year ago. Farm chunks bring \$60@140 for common to good kinds, drafters \$185@265, drivers \$75@200 and wagoners \$150@200 for good to extra.

GOVERNMENT CROP REPORT.

A summary of the September crop report for the state of Michigan and for the United States, as compiled by the Bureau of Crop Estimates (and transmitted through the Weather Bureau), United States Department of Agriculture, is as follows:

Corn.—State.—September 1 forecast, 52,000,000 bushels; production last year (December estimate), 45,375,000 bu.

United States.—September 1 forecast 3,250,000,000 bushels; production last year (December estimate) 2,583,241,000 bushels.

All Wheat.—State.—September 1 forecast 14,100,000 bushels; production last year (December estimate) 13,600,000 bushels.

United States.—September 1 forecast, 668,000,000 bushels; production last year (December estimate) 639,886,000 bushels.

Oats.—State.—September 1 forecast 62,600,000 bushels, production last year (December estimate) 42,690,000 bu.

United States.—September 1 forecast 1,530,000,000 bushels; production last year (December estimate) 1,251,992,000 bushels.

Barley.—State.—September 1 forecast 3,280,000 bushels; production last year (December estimate) 2,450,000 bushels.

United States.—September 1 forecast, 204,000,000 bushels; production last year (December estimate) 180,927,000 bushels.

Rye.—State.—Preliminary estimate, 5,180,000 bushels; production last year (December estimate) 4,648,000 bushels.

United States.—Preliminary estimate 56,044,000 bushels; production last year (December estimate) 47,383,000 bushels.

Potatoes.—State.—September 1 forecast 44,500,000 bushels; production last year (December estimate) 15,360,000 bushels.

United States.—September 1 forecast 462,000,000 bushels; production last year (December estimate) 285,437,000 bushels.

All Hay.—State.—Preliminary estimate 3,760,000 tons; production last

year (December estimate) 4,423,000 tons.

United States.—Preliminary estimate 92,000,000 tons; production last year (December estimate) 109,786,000 tons.

Apples (Agricultural Crop).—State. September 1 forecast 2,160,000 barrels of three bushels; production last year (December estimate) 4,160,000 barrels.

United States.—September 1 forecast, 59,100,000 barrels of three bushels; production last year (December estimate) 67,415,000 barrels.

Peaches.—State.—Estimated production 1917, 740,000 bushels; production last year (December estimate) 2,010,000 bushels.

United States.—Estimated production 1917, 42,600,000 bushels; production last year (December estimate) 36,939,000 bushels.

Beans.—State.—September 1 forecast 7,380,000 bushels; production last year (December estimate) 3,102,000 bushels.

United States (five states).—September 1 forecast 19,970,000 bushels; production last year (December estimate) 8,846,000 bushels.

Sugar Beets.—State.—September 1 forecast 845,000 tons; production last year (December estimate) 503,000 tons.

United States.—September 1 forecast 7,940,000 tons; production last year (December estimate) 5,920,000 tons.

Prices.—The first price given below is the average on September 1 this year, and the second the average on September 1 last year.

State.—Wheat, 200 and 132 cents per bushel; corn, 188 and 86; oats, 60 and 43; Potatoes, 117 and 128; hay \$11.40 and \$10.10 per ton; eggs 36 and 25 cents per dozen.

United States.—Wheat, 209.7 and 131.2 cents per bushel; corn, 175.5 and 83.6 cents; oats, 61.7 and 43.1 cents; potatoes, 139.1 and 109.3 cents; hay \$13.68 and \$10.42 per ton; cotton, 23.4 and 14.6 cents per pound; eggs, 33.2 and 23.3 cents per dozen.

MICHIGAN CROP REPORT.

Wheat.—The average estimated yield in the state is 17.84, in the southern counties 18.04, in the central counties 17.34, in the northern counties 16.96 and in the upper peninsula 22.58 bushels per acre. The quality as compared with an average per cent is 92 in the state and southern counties, 89 in the central counties, 93 in the northern counties and 96 in the upper peninsula. The total number of bushels of wheat reported marketed by farmers in August at 36 mills is 45,407 and at 51 elevators and to grain dealers 98,402 or a total of 143,809 bushels. Of this amount 132,233 bushels were marketed in the southern four tiers of counties, 10,495 in the central counties, and 1,081 in the northern counties and upper peninsula. The estimated total number of bushels of wheat marketed in August is 600,000. Sixty-five mills, elevators and grain dealers report no wheat marketed in August.

Oats.—The estimated yield in the state is 37.95, in the southern counties 38.86, in the central counties 39.72, in the northern counties 33.49 and in the upper peninsula 40.04 bushels per acre. The quality as compared with an average per cent is 96 in the state and southern counties, 97 in the central counties, 92 in the northern counties, and 93 in the upper peninsula.

Rye.—The estimated average yield in the state is 15.54, in the southern counties 15.27, in the central counties 14.55, in the northern counties 15.28, and in the upper peninsula 21.33 bushels per acre.

Corn.—The condition of corn as compared with an average per cent is 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. The condition one year ago was 69 in the state, 62 in the southern counties, 73 in the central counties and 78 in the northern counties and 93 in the upper peninsula.

Beans.—The probable yield of beans compared with an average per cent is 74 in the state 72 in the southern counties, 68 in the central counties, 83 in the northern counties and 79 in the upper peninsula. One year ago the probable yield was 50 in the state, 43 in the southern counties, 53 in the central counties, 60 in the northern counties and 74 in the upper peninsula.

Peas.—The estimated average yield in the state is 17.69, in the southern counties 15.35, in the central counties 16.16, in the northern counties 18.05 and in the upper peninsula 24.45 bushels per acre.

Potatoes.—The condition of potatoes compared with an average is 91 in the state and central counties, 88 in the southern counties, 95 in the northern counties and 94 in the upper peninsula. The condition one year ago was 47 in the state, 43 in the southern counties, (Continued on page 231).

THIS IS THE LAST EDITION.

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

DETROIT LIVE STOCK MARKET.

Thursday's Market.

Thursday's Market.

September 13, 1917.

Cattle.

Receipts 2069. Market strong at last week's closing prices on all grades.

We quote: Best heavy steers \$10@10.50; best handy weight butcher steers \$9@9.50; mixed steers and heifers \$8.50@9; handy light butchers \$7@8; light butchers \$6@7; best cows \$7.50@8; butcher cows \$6@7; common cows \$5.50@6; canners \$4.50@5.25; best heavy bulls \$7.50@8; bologna bulls \$6.75@7; stock bulls \$5.50@6.50; feeders \$7.50@8.50; stockers \$6.50@7.50; milkers and springers \$5@9.

Bishop, B. & H. sold White 2 cows av 690 at \$5.90 do av 880 at \$5.25, 1 do wgh 960 at \$6.80 do av 812 at \$5.25, 4 do av 957 at \$5.25, 3 do av 800 at \$5.25; to Mason B. Co. 18 butchers av 708 at \$7.10, 1 canner wgh 970 at \$4; to Resnick 25 butchers av 574 at \$6.50; to Newton P. Co. 2 steers av 127 at \$10, 3 do av 1066 at \$10.50, 3 do av 980 at \$8; to Parker, W. & Co. 23 do av 977 at \$8, 10 do av 700 at \$7; to Hammond, S. & Co. 15 do av 984 at \$8.50, 37 do av 870 at \$7.75; to Garber 22 butchers av 550 at \$6.25; to Newton P. Co. 5 steers av 1146 at \$8.50, 9 do av 992 at \$8.50, 1 do wgh 730 at \$8.25; to Hammond, S. & Co. 2 bulls av 1400 at \$7.50, 2 cows av 930 at \$6.50; to Parker, W. & Co. 4 steers av 790 at \$9.25, 19 do av 1131 at \$9, 20 do av 1000 at \$9.75, 6 do av 900 at \$7.75, 18 do av 651 at \$6.75; to Sullivan P. Co. 14 do av 760 at \$7.75, 9 cows av 991 at \$6.75; to Kull 4 feeders av 790 at \$8, 4 do av 815 at \$8; to Nagle P. Co. 4 steers av 1107 at \$9.50; to Shipiro 5 butchers av 506 at \$6; to Mich. B. Co. 2 bulls av 1265 at \$6.50, 9 steers av 1060 at \$10, 5 do av 946 at \$8.30, 6 do av 883 at \$7.75, 10 do av 1172 at \$10.

Erwin, S. & J. sold White 2 cows av 1000 at \$5.25; to Benz 12 butchers av 700 at \$7.65, 4 do av 707 at \$7.65; to Kamman B. Co. 6 steers av 1100 at \$8.75, 2 do av 715 at \$7.75, 3 do av 760 at \$8.50, 1 do wgh 900 at \$8.50, 1 do wgh 1000 at \$9; to Kull 14 feeders av 840 at \$8, 5 do av 860 at \$8; to Costello 13 butchers av 650 at \$6.60, 9 do av 590 at \$6.60; to Thompson 2 bulls av 1420 at \$7.35, 1 steer wgh 920 at \$8.25; to Sullivan P. Co. 15 butchers av 707 at \$7.10; to Bray 5 cows av 1080 at \$6.50; to Conway 5 stockers av 550 at \$6.50; 8 do av 581 at \$6.35; to Sullivan P. Co. 4 cows av 1020 at \$7.50; to Prentiss 28 stockers av 600 at \$6.75, 30 do av 538 at \$6.85, 17 feeders av 830 at \$8, 5 do av 760 at \$7.50; to Thompson 12 steers av 997 at \$9.25.

Veal Calves.

Receipts 451. Market strong. Few fancy at \$16.50; bulk good \$15.50@16; others \$7@14.

Erwin, S. & J. sold Sullivan P. Co. 2 av 155 at \$16; to Thompson 2 av 170 at \$16, 2 av 160 at \$16, 1 wgh 140 at \$13, 6 av 145 at \$16; to Hammond, S. & Co. 9 av 250 at \$9, 5 av 165 at \$11; to Goodgold 7 av 500 at \$6.50.

McMullen, K. & J. sold Parker, W. & Co. 5 av 155 at \$15, 1 wgh 180 at \$16.

Sandel, S., B. & G. sold Thompson 17 av 156 at \$16, 2 av 175 at \$13, 2 av 145 at \$13, 8 av 150 at \$16; to Goodgold 15 av 160 at \$9; to Thompson 15 av 170 at \$16, 4 av 180 at \$13; to Sullivan P. Co. 8 av 180 at \$16, 21 av 160 at \$16.

Sheep and Lambs.

Receipts 3009. Market 50@75c higher than last week. Best lambs \$17.25@17.50; fair lambs \$15.50@16.50; light to common lambs \$14@15; fair to good sheep \$9@9.75; culls and common \$6.50@8.25.

Sandel, S., B. & G. sold Sullivan P. Co. 8 lambs av 85 at \$13, 24 do av 85 at \$15.50, 17 sheep av 125 at \$8.75, 10 do av 95 at \$6.50, 4 do av 95 at \$6.50, 33 lambs av 80 at \$16, 34 do av 80 at \$16.10, 49 do av 60 at \$14.25, 20 do av 55 at \$14, 8 do av 65 at \$13.50, 108 do av 70 at \$15.25, 4 sheep av 112 at \$9, 6 do av 100 at \$6.50; to McPhee 13 yorkers av 105 at \$10.50; to Nagle P. Co. 38 lambs av 75 at \$10.75, 3 do av 55 at \$13.50, 16 do av 90 at \$16, 8 do av 77 at \$15.50, 11 sheep av 105 at \$9.

Hogs.

Receipts 2336. Market 15@25c lower than Tuesday. Pigs \$16.50@17; mixed hogs \$17@18.50.

(Continued from page 230).

46 in the central counties, 50 in the northern counties and 75 in the upper peninsula.

Clover Seed.—The condition of clover seed compared with an average per cent is 75 in the state, 73 in the southern counties, 71 in the central counties, 84 in the northern counties and 98

in the upper peninsula. The condition one year ago was 88 in the state and northern counties, 90 in the southern counties, 82 in the central counties and 100 in the upper peninsula.

Cucumbers.—The condition of cucumbers compared with an average per cent is 86 in the state, 87 in the southern and central counties, 82 in the northern counties and 73 in the upper peninsula. The estimated average yield in bushels is 84 in the state, 81 in the southern and central counties, 90 in the northern counties and 105 in the upper peninsula.

Grain and seed threshed in Michigan up to and including August 15 as per returns of Threshermen is as follows:

	Acres.	Bush.	Yield
Rye	49,416	741,809	15.01
Wheat	131,586	2,557,014	19.43
Oats	33,429	1,307,759	39.12
Barley	22,330	654,204	29.30
Peas	8	139	17.38
Timothy Seed.	81	423	5.22
Clover Seed:			
June	68	46	0.68
Mammoth ..	8	30	3.57
Alsike	488	1,742	3.57

Warranted to Give Satisfaction.

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Has Imitators But No Competitors.

A Safe, Speedy and Positive Cure for Curb, Splint, Sweeney, Capped Hock, Strained Tendons, Founder, Wind Puffs, and all lameness from Spavin, Ringbone and other bony tumors. Cures all skin diseases or Parasites, Thrush, Diphtheria. Removes all Bunches from Horses or Cattle.

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HAY

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Uninspected, but clean and good quality, grown from pedigreed stock. Chester Shirkley, Memphis, Mich.

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Wanted Assistant stationary engineer with enough engine knowledge to secure third grade Ohio engineer's license. Steady employment, good wage to reliable married man. Address, stating experience and previous employment, A. I. Root Co., Medina, O.

A Married Man to work on farm. Good wages, steady employment. Address Box 80 R. F. D., Gross Ile, Wayne Co., Michigan

MAN—To wear fine suit, act as agent: big pay. Easy work. Banner Tailoring Co., Dept. 738, Chicago, Ill.

FERRETS. Both colors. Write for price list. HUGH KEPHART, Dowagiac, Michigan.

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The Institution is situated in the center of the city, not far from the Lake, there are good furnished bedrooms, also nice sitting and dining rooms too. Very moderate terms. The Convent Sisters D. C. J. Wisconsin St. and Sheridan Rd. Kenosha, Wis.

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Rainy Lake Farm Lands, Clay loam soil, guaranteed fertile, on long time, small cash payment. Write JNO. G. KRAUTH, owner, Millersburg, Mich.

135 Acre Farm \$5600.

Corn Crop 2000 Bushels

Last season and has averaged 300 bu. tomatoes to the acre. Only half mile to village, high school, milk station, cannery and Auto Bus line for passengers and freight to city of 600,000, over state road all the way. 75 acres dark loam soil in high state of cultivation, balance valuable woodland and wire fenced pasture. Bearing orchard of apples, pears, cherries and peaches, 2-story house with telephone, fine shade and pleasant views. Slate roofed barn. Owner having other business makes quick sale price of \$5600, and if taken soon throws in pr. horses, cows, hogs, poultry, farm tools, etc., etc. For details see page 5, Strout's Catalogue. Copy mailed free. E. A. STROUT FARM AGENCY, Dept. 101, 150 Nassau St., New York.

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In Central Michigan

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I have 200 acres of good unimproved lands in Gladwin County Mich. in 40 and 80 acre tracts well located that I will sell at \$15 per acre. \$3 per acre down. \$3 per acre each year until paid for with interest at 6%. I have some special bargains at this time on improved farms. U. G. REYNOLDS, Gladwin, Michigan.

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135 acres, good land, well fenced, 40 acres under cultivation, small orchard, log buildings, 300,000 ft. good hardwood timber; 9 1/2 miles to D. M. R. R., 4 1/4 miles from county seat. For prices and particulars write, ROBERT SHEPARD, Mio, Mich.

High Class Dairy Farm

190 Acres, with 30 cows, bull, 40 acres under cultivation, 300,000 ft. good hardwood timber; 9 1/2 miles to D. M. R. R., 4 1/4 miles from county seat. For prices and particulars write, ROBERT SHEPARD, Mio, Mich.

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State what you have. A. MILKA, 217 Davison Road, Detroit, Mich.

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Weighing 1600 pounds at 24 mos. old Sired by a Stallion Weighing 2100 pounds well bred and priced to sell. M. A. Bray Est., Okemos (Ingham Co.) Mich.

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GUERNSEYS Bull calves for sale, from A. R. dams and cows on test.
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Registered and Grade Guernsey cows, bulls, yearlings, heifer calves; will sell 20. Some with records; choice of 45; must reduce herd; tuberculin tested. **Avondale Stock Farm, Wayne, Mich.**

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842 Lbs. BUTTER

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

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

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Do you appreciate the value a Herd Sire would be to your herd, if from tested Dams of over 20 lbs. butter 7 days and 16 to 20 thousand pounds milk in 10 months.

We have two young bulls for sale old enough for service October of this year, whose dams made the above records.

These calves are offered at \$75 each. Their dams will be re-tested this winter and we certainly expect them to make 30 lbs. butter in 7 days. You cannot lose on them. They are the best of dairy type. **All stock guaranteed as represented.**

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PETERSBURG, MICHIGAN

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6 to 10 months old.

From cows with A. R. O. records—Sired by a 'Son of Spring Farm King Pontiac 6th.

The Great Young Holstein Bull
His first 14 tested daughters average over 20 pounds butter in 7 days.

The past year there were 14 bulls sold for \$10,000 or more.

The half sisters of the sire of these bulls, I have for sale, won as much prize money, as all the daughters of those sold for \$10,000 combined. Priced from \$75 up.

Bigelow's Holstein Farms,
Breedsville, Mich.

CLUNY STOCK FARM

100 REGISTERED HOLSTEINS 100

For Sale:—17 mos. old bull whose 7 nearest dams average 560.1 lb. milk and 25.679 lb. butter in 7 days. Sire is by the son of a 32.9 lb. cow and from a 31 lb. 4 yr. old cow. Dam is a 22.5 lb. Jr. 3 yr. old daughter of a 26.5 lb. Jr. 4 yr. old cow, whose dam is a 27 lb. cow.

Ready for immediate heavy service. Priced to sell immediately. Send for pedigree and price.

R. BRUCE McPHERSON, Howell, Mich.

Buy Your Bulls From Parham's Pedigree Stock Farm
Choice Registered Holstein calves from A. R. O. cows.
RAY B. PARHAM, Bronson, Michigan.

Co-operate In Shipping Stock

This letter may look queer to you, but some of my neighbor farmers and myself feel we are not getting a square deal on our cattle. The best we can get is five cents on foot and that doesn't look right to us. Of course, our cattle are not the best. They are grass-fed yearlings and two-year-olds, in good order, ranging from 500 to 700 pounds apiece. I have two, two years old that will weigh about 1,200 pounds apiece. Seems to me we ought to get a better price than that, taking the price of meat into consideration. We will consider it a great favor if Mr. Lillie will give us his opinion on this.

Bay Co.

C. L.

The market for grass cattle has been rather unsatisfactory this season; they have sold for less than feeders expected to get. The only reason I can see why this is so is because they have been run to market sooner than during ordinary years because people were afraid the price would drop; then again in the northwest, the season has been very dry and feeders were forced almost to put their cattle on the market before they were ready. This has demoralized the market and grass cattle have been selling for a dollar or two per hundred less than they ought to simply because the feeders have glutted the market. In other words, the owner of grass-fed cattle this year has done what he practically has done many times before on other products—put them on the market regardless of what effect it would have upon prices. There is a shortage of cattle, the world

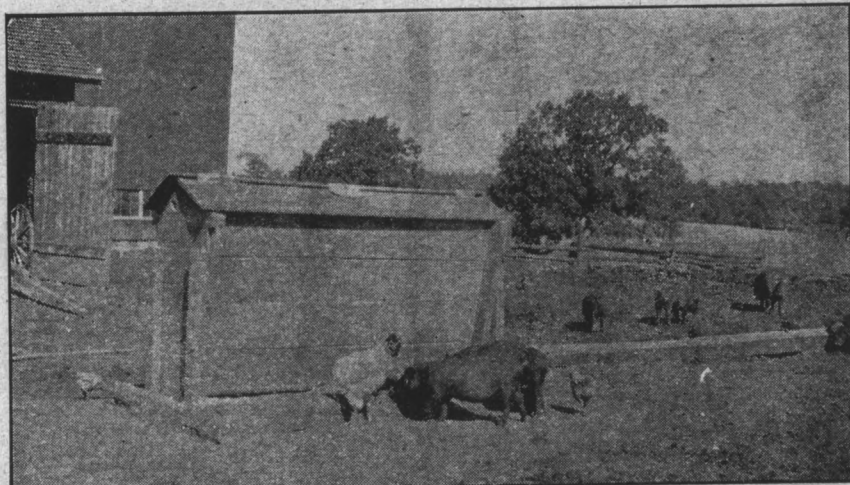
Ship your own cattle and your own hogs. If you haven't got a shipper up there that will pay you the price you ought to have, a little co-operation among your neighbors will enable you to form a shipping organization and you can ship your own cattle just as well as to have some drover ship them. There are perfectly reliable commission men in Detroit, Buffalo, and Chicago that you can send your cattle and hogs to and get the highest market price on the day of arrival. I think you can trust them to get the very best price that the market will give on your class of stock and you don't have to pay the local shipper any commission. There are numerous instances all over this country where farmers have organized co-operative shipping associations and I have yet to hear of one that is not satisfactory.

COLON C. LILLIE.

STARTING WITH EWE LAMBS.

Good breeding ewes are selling high. Lower prices are unlikely, as the demand is strong and the available supply is small. With probable high prices for mutton and wool in the future the farmer who understands sheep and will properly care for them from the start has good prospects of success.

For those inexperienced in sheep raising, particularly, there are several



A Hog "Cafeteria." Let the Hogs Help Solve the Labor Question these Days when Hands Are at a Premium.

will take more cattle than we have at the present time and yet in the face of this extraordinary demand, the price has gone down because feeders have sent too many unfinished cattle to market at one time. Had there been some organization to influence the shipping of cattle the market could have been controlled and it would have cost the consumer no more because the packers always take advantage of such things and they never put the retail price down in proportion to the wholesale price when such a slump in price takes place, and I don't know as we can blame them very much for taking advantage of these things, the farmer and feeder is entirely at fault.

The supply in the last few days seems to be lessening and it looks as if the rush of such cattle is over for this season, and if this is so the market will recover and it seems to me that one wouldn't lose money by holding the cattle, yet there is another thing to take into consideration and that is the high price of feed and the high price of beef is influencing many dairymen to dispose of their poorest cows and there may be enough of these placed on the market to depress it for some time. It is all really too bad because the world needs the beef now and will need it in the future, and there is no use of the farmer sacrificing when all he has got to do is to control the market, not to put too much on the market at one time.

It seems to me that in your vicinity is just the right place to start a co-operative stock shipping association.

important advantages in purchasing ewe lambs instead of mature breeding ewes, according to the United States Department of Agriculture. In the first place, the ewes of breeding-age that are offered for sale are mostly western ewes with a long wool cross while the ewe lambs coming from the west are mostly black-faced lambs, thus showing a cross of some of the down breeds which is the kind of blood most farmers wish to have in their flocks. By buying such ewe lambs one gets the advantage of starting with the first cross of the type to be used in grading up of a flock to the mutton type.

While breeding stock is selling high, the ewe lambs can be bought at about \$5.00 per head less than breeding ewes. This is an important point in starting a flock, although until the lambs come to a breeding age no returns from the flock will be forthcoming except the wool clip. However, for the beginner in sheep husbandry, no better plan of obtaining experience could be adopted than in caring for a flock of ewe lambs for a year. The experience gained in wintering ewe lambs and managing the flock throughout the summer season would be invaluable.

Investment in a flock of ewe lambs will give the advantage of the first cross of blood of the down breeds, lower price, and necessary experience. The wool clip, which will at least offset the first year's keep and the yearling ewes, will be a benefit to weedy pastures next spring if moved frequently and not stocked so heavily as to eat the grass into the ground.

KEEPING SCRUB STOCK.

There are very few farms where a close inspection would not disclose some unprofitable stock. It may be only a head or two, but, whether many or few, it is quite evident that they are not the sort that will pay for winter feeding. They should be singled out and disposed of without delay for what they will bring. It will not take long for them to eat an amount which would absorb a good share of their present value, and if you cannot make them worth more it is not policy to waste good feed on them. Look your stock over and see just what you think will be profitable to put into winter quarters.

The man who has been keeping scrub stock all his life and flatters himself that such care as is usually given to that class of property will be sufficient in the case of high-bred stock may rest assured that he is all wrong. Not that the cultivated breeds need pampering, as many erroneously suppose. They simply need what the scrub stock should, but do not have. The point that I wish to make is that if in the habit of neglecting a common beast to his own injury and its discomfort, he is not the man to keep animals which will, if kept well, show great gain and good profit, since they will show rapid depreciation under neglect.

The advisability of grading up the herd is something that all farmers admit, but there are various ways in which they put it into practice. Now I am not speaking of all farmers, but there are a few that fall in with these methods. One way is to turn your cows in a field next to your neighbor's pasture if he keeps a thoroughbred bull, then if there is a weak fence between, the grading up process is pretty sure to follow in due season. But there are better ways than this and we do not recommend this plan. One objection to it is that it is apt to make hard feelings with one's neighbors, and that is something that no farmer can afford to do, even if he does get his cows bred without cost by such means. Better practice the golden rule in these matters.

Shiawassee Co.

D. H. M.

THE FLY NUISANCE.

One of the leaks with which the live stock industry has to contend during the hot days of late summer and early autumn is the attacks of insect pests. For them to make satisfactory returns or even to continue in good condition is out of the question.

To counteract this detrimental effect a few simple and easy precautions may be suggested here for those who will take the time to apply them. To protect cattle from the female gad-fly, which punctures the back and deposits an egg that grows into a fat maggot in the winter, a smearing of tar and grease gives good results. Fish oils are very effectual and may be substituted for the grease. Tar used alone is a little too hot in summer and is disposed to scald when the sun is on it, but one part of tar and two of thick oil, one of a thinner kind, is all right. In purchasing fish oils the purchaser should make it known that he is not seeking quality but rather cheapness in this case. Frequently, there is some old stock on hand that the dealer will be glad to clear out at a nominal price. This mixture keeps the fly at a respectful distance and it is soon glad to pass on to a more unsavory victim.

The bot-fly that pays similar attentions to the breast, legs and sides of horses may be kept away by a light application of the same thing. In the case of working horses, a gentle rub-down with a paraffin rag before going out in the morning will be found a good thing. Flies on horses' heads and other parts are a real torment, but there seems to be no remedy that is

both harmless and lasting. Sponging over with any of the coal tar emulsions affords protection, for a few hours. They, however, attract dust and dull the coat, yet being the least of two evils it is well to make the best of this trifle than have the horses worried with flies.

A flock of sheep crowded together on sultry days with heads all turned inward is an indication that the sheep bot fly has been laying its eggs in the nostrils of its victims. It is hardly practicable to go around among the whole lot, smearing each one's nostrils. Here is a wholesale way of doing it. Make auger holes in a plank, and lay it over a trough in which a little feed has been placed. The holes are smeared with tar or fish oil and the sheep get enough on their muzzles to disgust the fly and hasten its retreat.

The fly that causes maggots in the fleece, generally lays on the underside of the leaves of trees. It is, therefore, around shady pastures that we must often have this trouble. To prevent the fly striking, powder of sulphur and oil of tar are shaken over the moist fleece in the morning. A watering pot may be used when there is no dew and a rough parting made along the back of the sheep. Despite these precautions, the fly will often find a sore place in the head of the sheep. For those unfortunate enough to be struck and already have maggots, a strong carbolic oil is good.

Hillsdale Co.

J. A. KAISER.

NEW FLOCKS NEED PURE-BRED RAMS.

One of the results of the boom enjoyed by the sheep industry in Michigan within the past year has been a demand for pure-bred rams. This led, last fall, to a scarcity of desirable sires, which compelled owners of many of the new flocks to start business without the right type of rams. Every sheepman knows, however, that if success is attained in the sheep-raising game it will come soonest to the men whose flocks are headed by strong, pure-bred animals. The flock-master who hasn't such a sire should invest in one as soon as possible. The matter is one worth considering at this time for the reason that the man who purchases in September will have some opportunity to select the kind of ram he should have, while he who waits will be compelled to take what is left.

"What breed shall I choose?" the new flock owners have been asking. Every man, however, must largely answer this for himself, for there is no "best breed" for all conditions. Far more depends upon the individual excellence of the animal than upon the breed to which he may happen to belong.

But a pure-bred ram should be chosen as the pure-bred will prove more prepotent than the grade. For small flocks of less than twenty ewes a well grown ram lamb will prove satisfactory, but for larger flocks a yearling or older sheep should be selected. The mature ram, well cared for, will breed from forty to sixty ewes.

Mich. Ag. Col. G. A. BROWN.

A FLY REPELLANT.

Last summer, throughout the fly season, I sprayed my cows every morning before they started for pasture. It not only added to their comfort but prevented their kicking over the milk pail and knocking me off the stool with their tails. And I find a further benefit this spring, as not one of them has a grub. So if I wished to beef one, her hide would bring full price.

I made my own spraying dope at a cost of twenty cents per gallon, as follows: Into a gallon bottle put one pint of pine tar, two ounces of crude carbolic acid and fill with kerosene.

Antrim Co.

F. L. KELLEY.



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Flint Maplecrest Boy sire in service
His sire is Maplecrest Korndyke Hengerveld, his 3 Nearest Dams each over 30 lbs. of butter in 7 days. His dam and grand dam both made over 1232 lbs. of butter in 1 year. It is the yearly cow we are looking for to deliver the goods. Flint Maplecrest Boy's Dam is Gluck Vasser Bell, 30.57 lbs. of butter in 7 days and 120 lbs. in 30 days. Her butter fat test is 5.27. This looks about right to the man who goes to the creamery. We have Bull Calves from 2 weeks to 8 months old for sale at dairy farmers' prices all out of A. R. O. Heifers. Write & tell us the kind of a bull you want.
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Registered Holstein cows & bull calves fine individuals cows safe in calf satisfaction guaranteed.
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WOULD You want a bull from a 30 lb. dam and a 30-35 lb. sire for \$100? Can't be did, but we have one for \$800, also one from a 27.53 lb. heifer for \$290, and one from a daughter of Pontiac Aggie Korndyke for \$280. Good ones as low as \$90. All from World Record Sire.
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For Sale A fine registered Holstein bull calf 9 mos. old 90% white. A Grandson of Maple Crest Korndyke Hengerveld. Whose pedigree is full of world's records and 30 lb. cows. Price \$70. Write for description.
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FOR SALE Ten head of high grade Holstein cows, 3 to 6 yrs. old, freshen from Sept. 15th. Feb. 1st and 3 yearling heifers, \$900 takes the herd.
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Registered Cows, heifers and heifer calves. Priced reasonable. Noted breeding and good individuals. B. B. Reavey, Akron, Mich.

On Our Easy Payment Plan we will ship you any registered Holstein Bull calf in our stables. Prices from \$50 up. Ypsilant Farms, Ypsilanti, Michigan.

RINKLAND HERD BULL CALVES from A. R. O. cows at farmers' prices. JOHN A. RINKE, Warren, Mich.

REG. Sept. and Oct. bull calves from College bred Bull and heavy milking dams for sale. Price right.
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POULTRY.

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We have a special offer which will interest poultry people who want Laying Hens for Winter. Since we do not feel that we can dispose of any more Pullets, we have decided to offer for immediate sale:

300 Laying Yearling White Leghorn Hens

These are from our choice colonies which as Pullets began laying last September (see descriptive circular), and which are still laying. Favorable prices in lots from 6 to 50 for immediate sale. Also other stock as follows:

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Brown Leghorns, Barred Plymouth Rocks (limited) White Wyandottes, Rhode Island Reds, Rose Comb Black Minorcas.

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Barred Plymouth Rocks, Rhode Island Reds, White Wyandottes, Single Comb Black Minorcas, White and Brown Leghorns, Anconas.

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50 Fine Young White Pekin Ducks.
30 Young Gray Toulouse Geese.

All of these are pure breed practical poultry which daily prove their practical value in the direct market for poultry and its products which we have begun to build up.

Everything we sell is guaranteed; each customer is to be fully satisfied. Do you want some of these Yearling Hens or some of the Young Ducks or Geese? They are to be sold at once.

We are planning for a more extensive sale of Day-Old Chicks next Spring, so that all orders may be filled.

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"200 Egg" Pedigree White Leghorns
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These vigorous, May-hatched pullets will be laying in a few weeks. These birds of quality are the choicest ever offered for sale. Price in hundred lots, \$1 each, for one week only. Our White Leghorns lay large, white eggs, and plenty of them. They are bred right. Book your order at once. Thousands of satisfied customers. Catalogue.

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\$.75 for 15; \$1.50 for 30; \$2.00 for 50; \$3.50 for 100.
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BUFF Leghorns—buy your cockerels for next year now. All stock at reduced prices remainder of season. Dr. William A. Smith, Petersburg, Mich.

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WHITE Wyandottes. A. 1 layers. Eggs for hatching, \$1.25, \$3 for 15, \$7 per 100. Special matings \$5 for 15. DAVID RAY, 709 Norris St., Ypsilanti, Michigan.

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Eggs During and After Molting

DURING the fall days when the old hens are molting and the pullets are scarcely beginning to lay, it is a difficult matter to get eggs. If a molting hen lays eggs, she must have nourishment enough to do the double duty of producing eggs and feathers at the same time. In most instances, the egg production is considerably slighted, if not altogether stopped. The best way to hurry the molting process along and get eggs at the earliest possible time afterwards, is to feed an abundance of oily feather-forming foods, such as oil meal and sunflower seed. Otherwise a good laying ration will be sufficient. If the hens are kept in good condition during this period, they will begin to lay much earlier than they will if fed on skimpy rations or left to rustle feed on the range. It must not for a moment be thought that because the hens are not laying eggs they do not require laying rations.

Of the old hens, the best and most prolific layers usually molt rather late. It will pay to keep these over for a second year as they will again produce many eggs. Early March and April pullets should begin laying in September and October if managed properly. Pullets allowed free range in alfalfa fields or grain fields where there are many bugs, then given plenty of sour milk should mature early and begin laying at the beginning of the season. For best results they will require some concentrates and proteins besides the feeds they are able to rustle in the field. Where they are not allowed free range, then such feeds as will supply the same nutrients should be given them.

We find it best to use the colony house system. That is, we divide our flock up, teaching each flock to go to their own house. This avoids overcrowding. Where pullets are left crowded in coops at night, it greatly retards their growth and hinders their maturity. If they have been allowed to roost in separate coops during the summer, it is a good plan to begin to teach them to go into the houses now. This system enables us to tell the age of the different flocks of hens. We do not think it best to keep a hen over two years unless an exceptionally good layer. The colony system allows more room and affords less crowded conditions.

It is time now to plan on fall greens for the laying hens. If no other space is available near the poultry yard, the garden space can be sowed to rye so it will be handy for them. After the rye is gone, clover tops and alfalfa leaves will supply greens, though not quite so succulent. Surplus beets, cabbages and small potatoes should all be kept for the hens. Ensilage chopped fine is also good. We have a large oat sprouter which we use during the winter time. The green feeds furnish very little nutrients, but they stimulate laying and for the best condition of the hens they must not only have plenty of greens in their ration but should have a variety. As for a grain ration, a good mash can be made up of corn meal, wheat middlings, hulled oats and oil meal mixed to a crumbly consistency with sour milk. Meat scrap may also be added. A little difference should be made in the ration fed the old hens and that fed the pullets. The pullets will do well on rations that would fatten the old hens. Too much fat-forming carbohydrates should be avoided. It is best to keep them in a good healthy, plump condition, but if they are inclined to put on fat it is time the ration be changed. This is one of the advantages in using the colony system of housing. It enables one to feed the old hens one ration and the pullets another so better results are obtained.

A person having experience with

poultry will have no difficulty in choosing either the layers or the prospective layers. Such marks as the color of the ear lobes, the bright red combs, the faded shanks and the spread of the pin bones are all familiar to one accustomed to choosing the layers. A thrifty hen is always out early in the morning and one of the last in at night. Such little indications should be given attention in making up the flock. It would be poor business to go into a flock haphazard and probably sell off the best layers. The slickest looking birds are often the poorest layers. It is best to study the flock and cull very carefully so that every hen kept through the winter will be a thrifty layer.

P. H. EATON.

CLEAN-UP SEASON FOR POULTRY IS HERE.

It is an ironclad rule of business that only those men achieve genuine success who give strict attention to business right along. Nevertheless, there are times when it may be wise to make just a little extra effort, and in the poultry game this cannot be better done than by according special care just now to those pullets from which winter eggs are expected. This should be clean-up time in the henery.

As a first step, the floors should be thoroughly cleaned by removing all litter. If the floor is one of wood or cement thoroughly scrape it. If it is gravel or sand remove from four to six inches of the surface, and put in new. Dust the walls and ceiling. Remove the nests to the yard and scrub them vigorously with soap and water. When dry, spray them well with a good coal tar disinfectant and allow the sun to get at them from all sides for a number of days. Then spray them again before replacing them in the house. Whitewash the walls and ceiling and the dropping board, if one is used. To the whitewash add a cupful of crude carbolic acid to the gallon. When the house is dry replace the nests and other interior appointments.

Bring the pullets in from the range before the fall rains and cold nights come on so that they can get accustomed to their quarters before beginning to lay.

If the poultryman will mix ten pounds of corn, ten pounds of wheat and five pounds of oats together for a grain ration, and feed fifty pounds of buttermilk along with grit, shell, bone and green feed, and use a mash of five pounds of bran and five pounds of flour middlings, he can expect eggs from matured, well-bred and well-housed fowls during the winter.

Ag. College. C. H. BURGESS.

CULLING OF FLOCKS.

By careful selection of birds for layers or breeders, better results can be obtained, but few poultry keepers cull close enough.

By culling closely the average egg production per bird is increased, as the poor layers, or the unprofitable birds will be disposed of. The losses from sickness or death will be decreased as the weak birds are more susceptible to disease.

The offspring from the breeders selected for egg production will be improved as they will inherit the tendency to lay and fewer birds will be culled.

The average egg production for pullets is 120 to 140 eggs, while the hens average about sixty to seventy eggs. It doesn't pay to keep more than one-third of the layers for breeders; and they should be disposed of after the breeding season, as the old birds are apt to become fat and do not lay enough to be kept at a profit.

At least one-third of the pullets raised could be culled to advantage.

Ingham Co. FRANK DUBOIS.

Veterinary.

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

Choke—Rheumatism.—I had six pigs that appeared to be well up to three months old and about three weeks ago one of them died suddenly and another one died a day or two ago, and a third one is sick. They would appear well when approaching trough, fill mouth full, suddenly back up, begin to twitch, and soon tumble down. I have also noticed some bunches on their hind legs and before they die the nose and ears were of a purple color. I also have an old pig that appears to be rheumatic, caused I believe from remaining in cold water too long. P. O., St. Clair, Mich.—If you will make the young pigs feed more sloppy and spread it out thin in feed box so that the pig will not take too large a mouthful and choke, they will doubtless be all right. Rubbing the throat with camphorated oil once a day will doubtless help them. Give your old pig 10 grs. of sodium salicylate at a dose three times a day and keep him out of cold water.

Acute Indigestion.—Have recently lost three shoats which I kept in a pen 10x14 feet, fed them plenty of alfalfa, sweet milk from separator. All three of the pigs that died bloated considerably and the rectum protruded. What treatment would you advise for these kind of cases? R. A. W., Alma, Mich.—Your shoats died the result of acute indigestion, caused from eating too much alfalfa and drinking too much sweet milk. A change of feed is all that is required. Or perhaps if they were fed one-third less, than they have been accustomed to eating.

Stomach Worms in Lambs.—Some of my lambs are troubled with stomach worms and I would like to have you give me a remedy. W. J. M., North Branch, Mich.—Everyone of your infected sheep should be kept by themselves, and the well ones should be kept in dry, high pasture. Give each fairly well grown lamb and ewe ½ oz. each of gasoline and raw linseed oil—add 4 ozs. of fresh cows' milk. Repeat this dose for three evenings. Very weak lambs should not be given as large a dose; ten days later give another course of this treatment. Prevention of stomach worms in sheep is best prevented by pasturing your stock on high land that is uninfected.

Swollen Throat.—Last fall I had an Oxford buck that started to swell under the jaw. I applied different kinds of liniment, but swelling increased in throat, fore legs and under belly, and some time later this ram died. Last fall I bought a two-year-old buck and now he seems to be swelling under jaw and I would like to know how to treat him. W. A. F., Jr., Prescott, Mich.—The swelling of throat, stocking of legs and dropsical swelling under abdomen are only symptoms of some other ailment. It is possible that his liver and kidneys were diseased. Apply equal parts of spirits of camphor and alcohol to swelling once a day. Give sheep 5 grs. of potassium iodide, 30 drops of tincture gentian, 30 drops of tincture cinchona and 15 drops of Fowler's solution of arsenic at a dose in feed or drinking water three times a day. Are you sure that your buck did not die of nodular disease, a parasitic bowel ailment common in sheep?

Tetanus.—Will you please tell me what is wrong with our dog and cats? They are dumpy, refuse to eat, grow poor, but are thirsty, slime runs from mouth and finally take lockjaw and die. J. T., Ypsilanti, Mich.—Lockjaw in dogs and cats is an incurable ailment, but it occurs to me that perhaps only a portion of your animals suffered from this ailment, as it is usually the result of a wound becoming infected with lockjaw germs. As soon as you notice a wound on either your cat or dog, paint it with tincture iodine, bandage it in absorbent cotton.

Diarrhea.—Whenever my horse is stabled and fed dry feed, he is troubled with looseness of bowels, but when on grass for two days his bowel movements are normal. I feed him oats and mixed hay. F. M. J., Fennville, Mich.—This kind of a case is best remedied by a change of feed; feed oats, bran, some oil meal and less hay. Mix equal parts of ginger, gentian and powdered charcoal and give him two tablespoonfuls at a dose in feed two or three times a day. Why not feed him plenty of green feed?

Injured Tendons.—Some four weeks ago our nine-year-old horse cut fore leg on barb wire; wound has healed, but his tendons between fetlock and knee are swollen. After resting a few days he travels sound, but when worked is lame. C. H. D., Oak Grove, Mich.—Apply equal parts turpentine, aqua ammonia and raw linseed oil to tendons three times a week.

Detroit Guarantee Sale

To Be Held Under the Auspices of the

Pontiac Holstein Breeders Sale Association

At The Michigan State Fair Grounds, October 3-4, 1917

Every animal over six months of age will have been tuberculin tested by a veterinarian approved by the State Department and will be guaranteed against tuberculosis for a period of 60 days from date of sale, according to the rules and regulations usually laid down in such cases.

A Committee of Standards has been appointed to determine the requirements for entry to this sale. They have set a very high standard.

Every animal will be inspected by a committee of three and any animals not conforming to requirements will be rejected.

No female will be sold whose last calf, when born, was not alive and fully developed.

There will be no three-teaters or aborters in this sale.

Each animal will be guaranteed by the consignor to be as represented or no sale. The consignors are all responsible men.

The famous Ypsilanti Herd, including the great three-times 30-lb. cow, Pontiac De Nijlander, her son and several grand-daughters will be dispersed.

The Lakeview Farm Co. will sell their entire herd. All are young with their best days ahead of them.

Flanders Farms, W. E. Flanders, Prop., are selling about twenty very choice ones.

E. Le Roy Pelletier, who developed the \$18,300 cow, Wandermere Belle Hengerveld, will sell ten or a dozen of the real good ones in his herd.

Elmer Dohany puts in twenty of the kind you like to buy. Several of them are bred two-year-olds due this winter.

Fred M. Warner enters sixteen beautiful youngsters. They will increase in value every day you own them.

E. M. Starkweather and James Gibson will sell seven head.

P. A. Nye, John Rinke, Musolf Bros., E. M. Moore, D. M. Wood & Son, and E. A. Hardy will each sell from two to five head. These are small consignments but the quality is of the right kind.

This will be a sale of good individuals and as we make the pedigrees, we find plenty of good breeding and A. R. O. backing.

This will be a good sale for you to buy some mighty good animals—just what you want to tone up your herd. Plan now to attend the

Greatest Michigan Sale

Colonels Haeger & Kelly will do the selling with S. T. Wood as Sale Director. Liverpool Sale & Pedigree Co., Inc., Liverpool, N. Y., will manage the sale and furnish the catalog.

4th Annual Sale of REGISTERED HOLSTEINS

ON THE FAIR GROUNDS AT HOWELL, MICH.

OCTOBER, 25th, 1917

HOWELL SALES CO. OF LIVINGSTON COUNTY

MALACHY ROCHE, Pres.

JAY B. TOOLEY, Secy.

Watch for further particulars later.

Jerseys and Duroc Jerseys

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

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

H. W. MUMFORD,
OWNER

BROOKWATER FARM

O. F. FOSTER,
MANAGER

Ann Arbor, Mich., R. 7.

FOR Sale One registered Holstein bull calf. Sire's twenty nearest dams have 7 da. records av. 25.53 lb. butter. Dam to be tested. A finely marked, growthy individual. Long Vein Farm, R. 3, Box 10A, Rochester, Mich.

FOR SALE 4 reg. Holstein Heifers \$2 lb. sire also few cows. Leslie, Mich.

V. E. COVERT.

HEREFORDS

Sires in service, Governor by Prince Donald Militant Farmer by Farmer (Imp), Bonnie Brae Jr. by Bonnie Brae 24th. Inspection invited.

ALLEN BROS., PAW PAW, MICH.

Wanted Fifty head high grade Hereford heifers—Calves or yearlings. Kindly specify breeding and price. W. E. MOSS, 710 Union Trust Bldg., Detroit.

HEREFORDS. Polled and horned. Both sexes for sale. Bob Fairfax 494027 at head of herd. EARL C. MCCARTY, Bad Axe, Michigan.

Get This Book

Buy a Jersey Bull!

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

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

The American Jersey Cattle Club

346 West 23rd Street, New York City

The Wildwood Jersey Farm

offers for sale choice young bulls from R. of M. dams, good enough to head any herd. We invite inspection. ALVIN BALDEN, Capac, Mich.

FOR SALE JERSEYS Ready for service bull calves, backed by good records. Waterman & Waterman, Meadowland Farm, Packard Road, Ann Arbor, Mich.

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

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

Hillside Farm Jerseys. For sale ten months old bull backed on both sides by R. of M. dams with high official records. C. & O. DEAKE, Ypsilanti, Michigan

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

For Sale Two registered Jerseys bull calves. Splendid individuals. Good pedigrees. Priced to sell. Long Vein Farm, R. 3, Box 10A, Rochester, Mich.

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

Maple Hill Farm Registered Jersey Cattle

Surplus stock all sold. J. R. Worthington, R. No. 7, Lansing, Michigan

ST. Clair County Jersey Cattle Club. We have for sale 5 Bulls old enough for service and Bull calves, from best strains of Jersey Cattle. Majesty's, Noble of Oaklands, Combination's Premier, etc. Write for Pedigrees, price and particulars. Fred A. Brennan, Sec. Capac, Mich.

Shorthorn Cattle of both Sex for Sale

W. W. KNAPP, Howell, Michigan.

FOR Sale—Reg. Short Horn Bulls by Maxwalton F. Mosarch 2nd, a son of Avondale, from 1 to 9 mos. old. John Schmidt, Reed City, R. No. 5, Michigan

Francisco Farm Shorthorns

Big Type Poland Chinas

"They're rugged—They pay the rent."

Nothing for sale at present. P. P. POPE, R. R. 3, Mt. Pleasant, Mich.

Bidwell Shorthorns

"For Beef and Milk"

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

BIDWELL STOCK FARM,

Box B, Tecumseh, Michigan.

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

Richland Shorthorns

IMP. Lorne, Albion Crest and Fair Acre Goods in service. A few good young bulls for sale at attractive prices. Our show herd will be at Detroit, Grand Rapids and Saginaw and we invite your inspection. Office Tawas City, Mich. Herd at Prescott, Mich. C. E. PRESCOTT & SONS.

For Sale Shorthorns Bulls 3 mos. to 2 years old from good milking cows.

R. R. Clyde Station, H. J. DeGarmo, R. 6, Milford, Mich.

SHORTHORNS Maple Ridge Herd, Established 1867. No stock for sale. J. E. Tanswell, Mason, Michigan.

Shorthorns for sale, 5 bulls Scotch top 10 to 14 mos. \$3 roan, 1 white, 1 red, price \$150. to \$250. 1 son of Maxwalton Sultan, 19 mos. \$350. C. Carlson, Leroy, Mich.

Cattle For Sale

2 Loads feeders and two loads yearling steers. Also 2 can show you any number 1, 2 and 3 years old from 600 to 1200 lbs. Isaac Shantum, Fairfield, Iowa, R-8.

FOR Sale—Registered Guernsey Bull Calves of service age from high test dams, Skeelicks and Yelks breeding. James C. Ranney, DeWitt, Mich.

HOODS.

Durocs and Victorias

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

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

Berkshires. Bred glits and sows for fall farrowing. Also Spring pigs, either sex. A few boars serviceable age, reg. Chase Stock Farm, R. 1, Marlette, Mich.

Berkshire Pigs going fast \$15.00 & \$20.00 each three months old. Registered & transferred, richly bred. Riverview Farm, Vassar, Mich.

DUROCS BOARS

Have the biggest, longest, growthiest and bred bunch of Spring boars in the state. 3 last fall boars by Panama Special.

NEWTON BARNHART, St. Johns, Mich.

Duroc Jerseys

Spring pigs, either sex, not akin. Sired by Jennings Pilot Wonder and Orion Chief Perfection. Write for pedigrees and prices. The Jennings Farms, Bailey, Mich.—V. M. Shoemith General Manager.

Reg. Oxford Rams 2 yr's \$35 each, seven very choice Rams lambs \$25 each, none weigh less than 110 lbs.

J. R. HICKS, St. Johns, Mich.

"Nothing But Spring Pigs For Sale"

CAREY W. EDMONDS, Hastings, Mich.

Duroc-Jerseys One Yearling Cherry King Boar, Glits bred for fall farrow. J. H. BANGHART, East Lansing, Mich.

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

Fall Boars & Glits all sold. Duroc Jerseys. I have some extra good heavy boned spring pigs for sale pairs not akin.

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

Dobson's Durocs; Pigs at weaning time; either sex, Best of breeding. Collie Pups. Orlo L. Dobson, Quincy, Mich.

DUROCS A few choice spring boars. Write for description & price. E. D. HEYDENBERG, Wayland, Mich.

Durocs, Good Spring pigs by Defender's E. E. Calkins. R. D. 6, Ann Arbor, Michigan.

Durocs A few good males sired by Joe Orion 2nd Dam by Orion Ch. King Jr.

A. FLEMING, Lake, 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 45 months old. Write for my plan—More Money from Hogs.

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

Chesters Bred Glits all sold. Special prices on March boars, also 6 months Holstein Bull. F. W. ALEXANDER, Vassar, Mich.

Big Type O. I. C's, & Chester Whites

Special prices on all boar pigs for the next 30 days. Will sell sows only when bought in pairs. These pigs are sired by our three Champion boars that have not an equal in the country. School master King of the breed Crandell's wonder & Callaway. Add both champions. All stock shipped on approval, satisfaction guaranteed. Get our catalogue.

Harry T. Crandell & Son, Cass City, Mich.

O. I. C. & Chester White Swine, Strictly Big Type, with quality. I have 20 Spring Boars that are EXTRA good. Of the most popular blood lines. Will sell a few glits when taken in pairs. These pigs have been fed right, to do the buyer the most good.

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

O. I. C. An extra fine lot of last spring pigs, either sex and not akin, from good, growthy stock. Farm ¼ mile west of depot.

Otto E. Schulze, Nashville, Mich.

BOARS

Big growthy fellows. The kind that pleases.

I ship C. O. D. and pay express.

J. CARL JEWETT, Mason, Mich.

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

O. I. C. Thorough bred O. I. C. Swine all sold out except fall pigs.

O. D. Somerville, Grass Lake, Mich. R. D. 4.

O. I. C's. All sold. Booking orders for the best of our winter and spring pigs.

C. J. THOMPSON, Rockford, Michigan

O. I. C's. Spring pigs and Reg. Holstein heifers from 5 to 15 months old. CLOVER LEAF STOCK FARM, R. 1, Monroe, Mich.

P. C. SWINE Big boned Apr. boars. Sows bred for fall farrow. Satisfaction guaranteed.

R. W. Mills, Saline, Mich.

BIG TYPE POLAND CHINAS

For Sale from the CHAMPION and GRAND CHAMPION and other GREAT HEID BOARS and big STRETCHY SOWS of very best breeding and individuality.

HILLCREST FARM, F. B. Lay, Mgr. Kalamazoo, Mich.

"War is"

So is starvation. Every one should do their bit. You can raise more pork on less feed if you breed Butler's big type Poland Chinas. Sows bred for fall farrow. Boars ready for service.

J. C. BUTLER, Portland, Michigan. Bel' Phone

LARGE Type P. C. Largest in Mich. Spring Boars ready to ship. The kind that make good. Come and see the real big type kind. Expenses paid if not as represented. Free livery from Parma.

W. E. LIVINGSTON, Parma, Mich.

Big Type Poland Chinas: April and May pigs, healthy and growthy. Prices right. L. W. BARNES & SON, Byron, Mich.

LARGE Strain P. C. everything sold except 1 husky yearling boar that is long, tall & deep. 1 extra choice fall boar. H. O. SWARTZ, Schoolcraft, Mich.

LARGE type P. C. Some very choice summer glits bred to farrow in August. Will sell 1 of my yearling herd boars.

W. J. Hagelshaw, Augusta, Mich.

Additional Stock Ads. on Page 231



We Protest

Now and then we meet a man who says with some enthusiasm, "I am using Gargoyl Mobiloil and it works fine."

To our great disappointment we sometimes find that this friend is using the wrong grade for his engine.

We are too jealous of the results which can be secured from the proper use of Gargoyl Mobiloils to allow this careless practice to go on without a protest.

Naturally, because of their sheer *quality*, Gargoyl Mobiloils are bound to show good *lubricating* results. But we are aiming to furnish more than protection to the moving parts.

For this reason, we annually determine through our Board of Engineers, which *grade* of Gargoyl Mobiloils is best suited to each make and model of car.

The man who fails to use the *grade* of Gargoyl Mobiloils specified for his car stands to lose some of

the greatest benefits which the oils offer him.

For example: Gas consumption depends a great deal on the piston-ring seal. The piston-ring seal depends solely on the "body" and character of the oil used.

In a given engine, oil of the very highest *quality* may be of wrong *body* for proper piston-ring seal. The result then is waste of gas and power with each piston stroke.

To assure your securing best results will you please look at the partial Chart at the right and see if you are using the correct grade for your car. If not, in justice to your own engine, will you, please, insist on being supplied with the correct grade.

Write for new 56-page booklet containing complete discussion of your lubrication problems, list of troubles

with remedies and complete Charts of Recommendations for Automobiles, Motorcycles, Tractors and Marine Engines.



Mobiloils

A grade for each type of motor

In buying Gargoyl Mobiloils from your dealer, it is safest to purchase in original packages. Look for the Red Gargoyl on the container. If the dealer has not the grade specified for your car, he can easily secure it for you.

VACUUM OIL COMPANY, Rochester, 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 New York Philadelphia Minneapolis Boston Chicago Indianapolis Pittsburgh Kansas City, Kan. Des Moines

Correct Automobile Lubrication

Explanation:—The four grades of Gargoyl Mobiloils, for engine lubrication, purified to remove free carbon arc:

Gargoyl Mobiloil "A"
Gargoyl Mobiloil "B"
Gargoyl Mobiloil "E"
Gargoyl Mobiloil "Arctic"

In the Chart below, the letter opposite the car indicates the grade of Gargoyl Mobiloil that should be used. For example, "A" means Gargoyl Mobiloil "A," "Arc" means Gargoyl Mobiloil "Arctic," etc. The recommendations cover all models of both pleasure and commercial vehicles unless otherwise noted.

This Chart is compiled by the Vacuum Oil Co.'s Board of Engineers and represents our professional advice on Correct Automobile Lubrication.

Model of	1917	1916	1915	1914	1913
CARS	Summer	Winter	Summer	Winter	Summer
Abbott-Detroit.....	Arc	Arc	Arc	Arc	Arc
Allen.....	A	A	A	A	A
Apperson.....	Arc	Arc	Arc	Arc	Arc
Auburn.....	A	A	A	A	A
Autocar.....	A	A	A	A	A
Briscoe.....	A	A	A	A	A
Buick.....	Arc	Arc	Arc	Arc	Arc
Cadillac.....	A	A	A	A	A
Case.....	A	A	A	A	A
Chalmers.....	Arc	Arc	Arc	Arc	Arc
Chandler Six.....	A	A	A	A	A
Chevrolet.....	Arc	Arc	Arc	Arc	Arc
Claire.....	A	A	A	A	A
Cunningham.....	A	A	A	A	A
Dart.....	A	A	A	A	A
Dodge.....	A	A	A	A	A
Dort.....	A	A	A	A	A
Empire.....	Arc	Arc	Arc	Arc	Arc
Federal.....	A	A	A	A	A
Ford.....	A	A	A	A	A
Franklin.....	A	A	A	A	A
Grinnell.....	A	A	A	A	A
Haynes.....	A	A	A	A	A
Hudson.....	A	A	A	A	A
Hupmobile.....	A	A	A	A	A
Jeffery.....	A	A	A	A	A
Kearns.....	A	A	A	A	A
Kelley Springfield.....	A	A	A	A	A
Knight.....	A	A	A	A	A
Kaiser.....	A	A	A	A	A
Lea.....	A	A	A	A	A
Lexington.....	Arc	Arc	Arc	Arc	Arc
Lippard Stewart.....	A	A	A	A	A
Lucas.....	A	A	A	A	A
MacFarlan.....	A	A	A	A	A
Marmont.....	A	A	A	A	A
Maxwell.....	A	A	A	A	A
Mercedes.....	A	A	A	A	A
Mitchell.....	A	A	A	A	A
Moline.....	A	A	A	A	A
Moon.....	Arc	Arc	Arc	Arc	Arc
National.....	A	A	A	A	A
Oakland.....	Arc	Arc	Arc	Arc	Arc
Oldsmobile.....	A	A	A	A	A
Overland.....	Arc	Arc	Arc	Arc	Arc
Packard.....	A	A	A	A	A
Paige.....	A	A	A	A	A
Patton.....	Arc	Arc	Arc	Arc	Arc
Pierce Arrow.....	A	A	A	A	A
Pontiac.....	A	A	A	A	A
Regal.....	Arc	Arc	Arc	Arc	Arc
Renault.....	A	A	A	A	A
Reo.....	Arc	Arc	Arc	Arc	Arc
Richmond.....	A	A	A	A	A
Saxon.....	E	E	E	E	E
Selden.....	Arc	Arc	Arc	Arc	Arc
Simplex.....	A	A	A	A	A
Stearns-Knight.....	A	A	A	A	A
Studebaker.....	A	A	A	A	A
Valley.....	A	A	A	A	A
Westcott.....	Arc	Arc	Arc	Arc	Arc
White.....	A	A	A	A	A
Willis-Knight.....	A	A	A	A	A
Winton.....	Arc	Arc	Arc	Arc	Arc

Electric Vehicles: For motor bearings and enclosed chains use Gargoyl Mobiloil "A" the year round. For open chains and differential, use Gargoyl Mobiloil "C" the year round.

Exception: For winter lubrication of pleasure cars use Gargoyl Mobiloil "Arctic" for worm drive and Gargoyl Mobiloil "A" for bevel gear drive.