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The Rout of Famine

THE United States wheat crop practically decides the fate of civilization. Almost 1,250,000,000 bushels of wheat and 107,000,000 bushels of rye are forecast in the June report. This is 40 per cent more than the largest crop ever produced of these bread grains. No country on earth has ever produced such a crop of winter wheat as the United States now bids fair to Harvest. Famine showed itself in Europe; the farmers of the United States rallied against it and increased their acreage almost 20 per cent. Nature reduced the loss of wheat by winter killing to a historical minimum and topped all by a growth condition on June 1 which has has never before been equaled.

The Michigan Farmer

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DETROIT, JUNE 21, 1919



CURRENT COMMENT

The Farmer as a Business Man

THE time is not far distant when farming will be universally recognized as a business. When agriculture comes into competition with all other kinds of safe investments returning a good rate of interest without any great requirements of knowledge and skill, the farm must pay or farming will not attract capital and labor. Business principles must be applied to farming and some system of accounting must be practiced.

The only practical way to study farming is to keep a record of the business and analyze the different operations. It is by considering the different departments of the farming by themselves as well as in their relations to the whole general scheme that one can determine with a fair degree of accuracy which departments are paying the most profit, and weed out or strengthen the profit-sinkers. Such a study of the business will prove a wonder-worker. It may show that too much feed is purchased, or that some of the live stock is unprofitable; that there should be fewer horses and more cows; that a tractor would prove an economic aid in cutting down the number of work teams and hired men kept during the year; that a flock of good sheep could profitably replace some of the poorer dairy cows and balance the number of hands required to do the milking and field work. Such is the angle from which the modern farm bureau aims to attack the farming problem. Their work is to be supplemented by farm management experts, who, going about with them, will gather production cost figures in typical counties so that the farmer will have reliable figures and data to govern his future operations. It also provides data for government experts to use when comparing the profits of farming with those of other kinds of business. In the end it will take the owner of the farm into the realm of every phase of producing raw materials as well as managing a high-class manufacturing plant.

Along with the efforts of the farmer

to become a business man has come a growing recognition of the fact that something must be done to bolster up the selling end of his business. After attacking the problem through the method of direct dealing and cutting out the middleman he has discovered that the business of distribution should be conducted by those especially qualified, and not by those hampered by the demands of production. At the same time he believes that some means must be devised—regulation, licensing or price-fixing if necessary—to prevent those engaged in distribution from exploiting both producer and consumer. The farmer is in no position to hold up prices and control conditions until his products reach the consumer. All that he can do is to put his products quickly in the wholesale channels of trade in the best condition possible. If certain individuals in the distributing trade are exacting too heavy tolls for the service they are performing it is plainly to the consumer's as well as the producer's interest to discover and rectify the evil.

Cooperative exchanges and shipping associations have proven of great value in bringing about better grading and packing and securing fair treatment from the distributing trade. The practices of wholesale dealers and jobbers and the delays of transportation have compelled producers to get together for mutual protection. Examples of successful cooperative organizations are too numerous to mention, but few of these successful organizations have accomplished more than putting their products up in good shape and delivering them promptly to the wholesale dealers.

While our farming is growing more complex than it used to be it is also increasing in interest to the men who have studied it as a science and as a business. We have abandoned old methods because new ones yielded a more satisfactory return. We are keeping better live stock because the scrubs failed to pay a profit on high-priced land, labor and feeds. We have used improved methods of selecting seed grains because they increased our crop yields. Many practices have been modified because of the advance in the cost of operating the farms and the difficulty of securing good help. The production of several kinds of crops and the feeding of more good live stock equalizes the farm income and provides profitable employment for the hired hands from month to month and year to year. The farmer of today is endeavoring to place his business on a plane of efficiency that will make it possible for him to count upon cost of production plus a sufficient profit to maintain himself and family in comfort and provide reinvestment in the business to make good unavoidable losses and depreciation.

Labor Saving Equipment

THERE has never been a time when adequate equipment for accomplishing the work in hand quickly meant so much to the average farmer as is the case right now. The actual saving in the use of such equipment is far greater than ever before because of the greatly increased wages which must be paid for extra help where it is available.

But in the great majority of cases extra help is unavailable at any price, and in every such case labor-saving equipment which enables one to accomplish the task in hand with the available help is of still greater value because it means a saving in crop value and increased production per man unit on the farm. On this account it is poor economy to get along with poor equipment in order to await a drop in the market before purchasing new equipment which may be needed for economy of results on the farm. With increased labor scales going into

effect everywhere, and with an apparent shortage of labor in practically every industry, there can be no great immediate shrinkage in value of manufactured products, and the use of improved equipment when it is as badly needed, as is the case at the present time, will in the majority of cases be worth more than any possible saving in the purchase cost where purchases are delayed on account of the present high price of such equipment. Wherever a mechanical device can be made to save in the number of men or in the time required to accomplish any task on the farm, it is bound to be a good investment under present conditions. This is especially true in view of the fact that there is no relief in sight for the labor difficulties with which the average farmer is now confronted.

Linking the Continents

ed the intervening space in a heavier-than-air flying machine. First, the achievement of Commander Read and his crew in the naval airship NC-4 has again strikingly reduced the limitations of man in achieving the impossibilities of yesterday. Then the heroic and sportsmanlike, though unsuccessful

ful attempt of Hawker and his navigator to make a non-stop trip pointed to the probability of further achievement in the same field in the not distant future. Now the more fortunate Captain Alcock and his navigator have eclipsed all previous efforts by making a successful non-stop flight across the Atlantic in a trifle over sixteen hours.

These achievements are significant of the progress of mankind since the first linking of the continents as a result of Columbus' idea, followed by the development of the modern steamship and later by the development of cable communication and finally the marvelous achievement of the wireless. And it is a promise for the future that the wonderful developments of recent generations do not mark the limit of human achievement, and that the future holds still greater opportunities for the human race.

But in this connection the trend of recent events holds a lesson for humanity which must be heeded, lest the fabric of enlightened civilization break down, as it has been weakened by the world war, through which we have just passed, and its attendant developments. We must learn well the lesson that might does not make right, for nation, class or individual, and build a more firm and solid foundation for amicable human relations on the principle of the Golden Rule.

New York Wheat Conference

A CONFERENCE of the wheat trade representatives with Julius H. Barnes, United States Wheat

Director, was held in New York City on June 10, for the purpose of gathering information and opinions which would aid in shaping the policy of the wheat director for the coming year. Representatives of the different organizations, including producers, dealers, millers and bakers were present from every part of the United States, numbering in all about two hundred and fifty.

The first and chief feature of the conference was an address by the wheat director. Mr. Barnes, reviewed the wheat situation of this country and of the world and seemingly convinced every interest represented that it was not only justice but economically necessary to maintain the guaranteed basal price of \$2.26 to the farmer. He cited history and statistics, showing that agriculture is the primary industry, in that one-half of our people are directly dependent upon the prosperity of our farming sections, and also that farm products have more than once, in the balance of exchange, saved our whole structure of finance. He finished this thought by saying:

"I cite these facts not to establish the right of one class or section for preferential treatment, but to point out that those who would restore the farm prices of past years of depression in this era of increased prices for labor, machinery and all the supplies that farming requires, would tend to throw the largest basic industry of America into confusion and demoralization that would reach far beyond the confines of that agricultural class alone."

Mr. Barnes concludes from the figures and estimates available that this country will be called upon for supplies of wheat amounting to from 410,000,000 to 460,000,000 bushels during the coming year. The largest previous export movement of wheat and flour from America was 1914-15, amounting to 332,000,000 bushels. He impressed upon his hearers the thought that those who handle the prime food of the country cannot absolve themselves from the semi-public nature of that business. It must not be made the subject of speculation and it is unthinkable that large private profits and generous

food.

It is proposed during the coming year to require all handlers of wheat and its products to enter into a written contract with the Grain Corporation, instead of regulating the trade by the license system as last year. None except bakers using less than one hundred barrels per month will be excused from entering into such a contract. The license system will be retained but applied only where necessary and in addition to the contract.

In response to the question from the director as to which is preferable, the permit system or the declaration of embargoes in the loading and shipping of wheat, the producers' representatives were almost unanimously in favor of the embargo plan as being more expeditious.

Carrying Charges.

The question of allowing a carrying charge to farmers who hold their wheat was considered at length. It was agreed by all that there should be allowed a certain amount per week or month to cover the cost of holding and storing wheat on the farms, else transportation facilities and storage terminals would be swamped after harvest, as farmers would be inclined to market at once. This amount, it was agreed, should not be large enough to encourage holding to the point of speculation. The amounts suggested were from one cent to three cents per month, with the majority favoring two cents. The time over which it should apply varied in the minds of the representatives but the weight of opinion seemed to favor the period between July 1 and February 1.

The spirit of the conference throughout was most harmonious and there was a very evident disposition on the part of all branches of the trade to trust the wheat director fully concerning the administration of the duties of his office, seemingly convinced of the sincerity of his purpose to carry on the work in the spirit of the closing sentence of his address:

"One must get the conception of a world still dependent upon America's aid, of the necessity and opportunity for America to be the 'Big Brother' of a distracted world, strong, resourceful and generous."



Why Not Better Yields of Clover Seed?

By J. F. Cox,

Professor of Farm Crops at M. A. C.

DURING the past spring and early summer more interest has been taken in short-seasoned hay crops which will take the place of clover hay than has occurred for a great number of years. Farmers of long experience have observed that more millet is being planted than has occupied the ground for at least a generation. As is the case with most substitutes, the makeshift is far removed from the "real thing." Red clover is too well adapted and valuable a crop to have its place long filled by a substitute in Michigan if the necessity can be avoided. Hence the abnormal production of such crops as millet, sorghum, soy beans for hay, sudan grass, oat and pea hay, etc., are employed to take the place of red clover, though necessary at the present time, their service will, it is hoped, be of brief duration.

With clover seed prices sky high, and an insufficient amount of seed for this year's seeding, the acreage planted has been smaller than for a number of years. Owing to the dry conditions of the summer of 1918, followed by an open winter, clover failures were frequently reported. Ordinarily, an area of approximately 800,000 acres is occupied every year in Michigan by clover seedlings. It would require almost double the amount of seed produced in the state to properly plant this vast acreage. Last year's production is reported at 73,980 bushels by Secretary of State Coleman C. Vaughan, in his April 1 report giving threshermen's returns. Michigan is one of the states depended upon by neighboring states for clover seed, hence the shortage in Michigan will be felt severely in other sections. Other states report a condition equally as serious as that existing in Michigan. In ordinary years clover seed can be secured from Europe, but it may be some years before any large exportation of clover seed can be expected from this source because of the great need for seed in war-devastated areas and owing to the disturbance of pro-

duction by the war. Moreover, the imported seed has never been as satisfactory as home-grown seed.

In considering the clover shortage most of us think in terms of hay and the effect of such a shortage on stock production. We cannot get along very well without a good supply of this valuable legume. Great as the immediate loss due to the clover shortage will be it is as nothing compared to the harmful effects which will result through a decrease in areas seeded to clover and hence a decrease in the following years in the production of corn, oats, wheat, barley, rye, potatoes, beans, beets and other crops depending on a good clover sod. In fact, all crops will suffer directly in proportion to the failure of clover seedings and the decrease of clover acreage in Michigan.

A good stand of clover is the key-

for clover hay in many sections may prevent the proper handling of the crop for seed. Important as the need is for forage, clover seed production should be placed first. We should not be guilty of "killing the goose that lays the golden egg." At least, it will be a safe seed advice for every clover grower to "grow your own."

The early cutting of the first crop of red clover has been found particularly effective in many sections in increasing the set of seed in the second cutting, hence clipping when the blooms begin to brown or just before, rather than allowing them to stand until a large percentage is fully ripe will be valuable in increasing the set of seed in the second crop. Grazing the first crop and taking the stock off before the great injury to plants has been done is also effective in increasing the

opportunity for further development of seed production throughout northern and western Michigan.

Early clipping of the crop aids in controlling clover seed midge which often causes great damage. The first crop does not as a rule seed heavily, possibly because pollenizing insects are not so plentiful, or because there is a tendency for the plant to produce greater vegetative growth. More seeds to the head are noted in the second crop. There is also a difference in the length of the pollen tubes, those of the second crop being noticeably shorter and hence possibly more easily pollenized by insects. Seed sets best during sunny, dry weather. The practice of light pasturing or clipping will hold back seed development until late August or September, insuring development of seed during the proper season. Clover should be cut for seed when the heads are all turned brown and before there is great loss through shattering. Mowing when moist with dew will prevent considerable loss of

heads. It should be raked into windrows, and cocked immediately, or handled by use of the self-rake reaper. If cover is available the crop should be stored under roof until hulled. Hulling is best accomplished when heads and straw are very dry.

The average yield of seed in Michigan during 1918 was .98 bushels per acre, 73,980 bushels were produced from 75,371 acres. The leading county in total production was Clinton county with 7,251 bushels from 6,729 acres, an average yield per

acre of 1.08 bushels. The leading county in yield per acre, producing a considerable amount, was Oscoda with a total acreage of 542 and a yield of 1,723 bushels, or 3.76 bushels per acre.

From the standpoint of immediate profitable returns as well as from the standpoint of continued returns from crops and live stock in the future it appears advisable that particular attention be given to clover seed production this season.



Clover is the Mother of the Crop Rotation.

stone crop in our rotations. Unless plenty of seed can be secured and the proper methods employed in getting good stands of clover, Michigan agriculture in many sections may suffer a serious decline through lack of good clover sods to turn under. It therefore seems imperative, and warranted by present economic conditions, to bend every effort in the coming season which will lead toward an increase in the production of clover sod. The need

production of seed. Early grazing or early clipping back is particularly effective in increasing the yield of mammoth seed. The pasturing and clipping should occur previous to blooming. The use of lime and acid phosphate on previous crops, or when fitting the seed-bed, or applied in spring as a top dressing will increase seed production. The highest yields of seed came from some Michigan counties where light soils prevail, and there is great

Experiments in Animal Nutrition

UP until about ten years ago, protein, carbohydrates, mineral elements and fats were considered the only essential elements in a feed ration. Dr. Babcock, inventor of the Babcock milk tester, was one of the few men doubting the completeness of the above list. He questioned the ability of a chemical analysis to show the biological value of a ration. In other words, he did not believe that it would

From the Address of Dr. McCullom, Given at 34th Annual Meeting of the National Holstein Friesian Association.

be possible to show by chemical analysis alone whether a feed mixture contained all of the essentials of life. To test his doubts he started a series of experiments with young heifers. The experiment was laid out in three groups. The first group of animals was fed exclusively on the products of the corn plant, including the grain, the stalk and the leaves. The second group was fed on the products of the wheat plant and the third on the products of the oat plant, in every case including the grain and fodder. The combinations of grain and fodder in each case were made up in such a way that each ration showed the same nutritive value by chemical test.

At two years of age the corn-fed animals were in fine condition; the oat-fed lot was termed as satisfactory and the wheat-fed lot was a miserable look-

ing lot. The heifers in each lot were bred when of proper age. The corn-fed lot gave very satisfactory appearing calves. The oat-fed lot dropped calves somewhat undersize, but all of the calves were born dead. The wheat-fed lot dropped calves very much undersize and immature, and all were born dead. The cows went into milk and the results at the pail were very much the same as the relative appearance of each lot. That is, the corn-fed lot gave good returns, the oat-fed lot only satisfactory and the wheat-fed lot very unsatisfactory results.

The results of this experiment led to two general conclusions: First, that it is impossible to make up any mixture consisting solely of seeds, tubers or root stalks that will promote growth and maintain life. Second, that it is impossible to make up such a mixture

with the addition of animal tissue that will promote growth and maintain life.

Milk Essential.

From this point, Dr. McCullom started with his experiments in the feeding of animals to test the correctness of this theory as applied to human beings. The results of his tests have led to the important discoveries that in order to promote growth and maintain life, seeds, stalks and tubers must be



Good Milk and Lots of It.



A Grosse Pointe Calf.

supplemented either with the green leaves of plants or with milk or some constituent of milk. The biological differences between ripened seeds and the growing leaves are plain. Seeds, ripened stalks or the matured tubers of plants are made up of matured or dead cells. They are designed by nature as food for the growing germ of the plant. They are not complete food for growing animals. The green leaves, on the other hand, are the living laboratory of the plant. They are made up of growing cells, and tests show that they are essential to the growth of animals. In the same way the muscle tissue of animals corresponds to the matured cells of seeds, and is not sufficient for the maintenance of animal life. Milk corresponds to the leaf cells and does contain the elements necessary to the growth of animals.

Famous Rat Experiments.

This theory is repeatedly proven in tests with young animals. A series of pens of rats fed under this test was shown at the recent Dairy Farm Exposition, at New York City. There were six pens of rats on exhibit. The rats were all of the same age and had all been handled in the same way except in the matter of feeding. Lot 1

had been fed on seeds of corn, wheat, peas, beans, oats and rice. The rats were small, rough and unthrifty, showing that rats cannot be maintained on seeds alone. Lot 2 was fed on steak, wheat, corn, peas, beans, oats and rice and were but little better than Lot 1, showing that rats cannot live on meat and seeds alone. Lot 3 was fed on wheat, corn, peas, beans, oats, rice and powdered milk and were fat and fully matured and in splendid condition, showing that seeds and milk make the rats grow normally. Lot 4 was fed on wheat, casein, milk powder, salts, dextrin, and butter-fat, and were the best of the group, showing that excellent growth is made on a good feed mixture. Lot 5 was fed on corn, peas and green alfalfa and appeared much like the rats in Lot 3, showing that leaves combined with seeds make rats grow. Lot 6 had been fed on oats, flaxseed, oil meal, salts and dextrin and the rats were small, rough and had developed sore eyes, showing that immaturity and sore eyes in rats result from the feeding of a wrong mixture. The sore eyes were readily cured by the addition of green leaves and more readily cured by the addition of milk or milk fat to the ration. The attendant told us that in these experiments the rats

fed as in Lots 1 and 6 would not reproduce and died before their normal time. Rats fed as in Lot 2 never raised the second generation, and only when fed as in Lot 3, 4 and 5 did they reproduce and show normal development of young.

The Essentials of Life.

From a multiplicity of such tests, Dr. McCollum has drawn two general conclusions: First, that milk or milk products contain an essential food element which the doctor has characterized as Fat Soluble A; second, that leaves of plants contain another essential of life which he has characterized as Water Soluble B. These two classes of foods are protective foods that must be supplied to promote growth and maintain life. Either one alone will serve, but at least one must be fed.

Some interesting applications of these facts were given. For example, the people of the Orient are essentially leaf eaters. They eat five times as much of the leafy portions of plants as we do. They draw the essential elements primarily from the leaves of plants, and while it maintains life it shows its influence on growth of the small, stocky statures of the Chinese and Japanese. The people of America

and northern Europe are milk eaters, drawing from fifteen to twenty per cent of their sustenance from milk and its products, and these people have shown the best all-around development of any people in the world.

Again, in a small section of New York City there live about nine thousand people, nearly all colored. They use practically no milk and eat very few leafy vegetables. Nearly one hundred per cent of the children of the community are suffering from the disease known as rickets. Pellagra is an infectious disease that always spreads when and in sections where people eat few leafy vegetables and little milk. In sections where most prevalent it is noticed that the disease disappears in spring when new green vegetables come in, and is never prevalent where the people use milk freely. In this case these two groups of foods act as protective foods, building the system up to where it can throw off the disease germs.

These facts form the soundest basis for the dairy industry. The race cannot exist without the dairy cow, and breeders and feeders of dairy cows owe it to their business to spread the knowledge of the essential qualities of their products.

News of the Agricultural World

NEW ZEALAND APPLES FOR AMERICA.

NEW Zealand apples can be marketed on the Pacific Coast in successful competition with storage stock grown on the Pacific Coast, according to J. A. Campbell, assistant director of horticulture, Wellington, New Zealand, who is visiting the Yakima Valley, Washington, for consultation with the fruit experts, particularly with reference to marketing methods and organization. Mr. Campbell, as reported in mail advices, says:

"New Zealand has no great fruit belt to develop, but our seasons are opposite to yours, and our surplus fresh fruits could easily be marketed here in competition with the fruit which you have carried over in storage. The situation is such that the possibility is apparent at once. It is more likely, however, that we will seek to develop markets in South America and South Africa." He has covered most of the Pacific Coast orchard sections in his travels. New Zealand, he said has about 50,000 acres of orchards and its standard varieties are much the same as those grown in most of the Pacific Coast sections, with the addition of Dougherty, as a late keeper, to offset the Winesap.

A PLAN FOR FIGHTING GRASSHOPPERS.

CALDWELL township in Missaukee county is a good illustration of what may be done in the way of systematizing the fight against grasshoppers. Every farmer in this township, with only two exceptions, received a supply of poisoned bait, and this bait was applied on the grass land in the township during two days. About twelve hundred bushels of the poisoned bait was used.

The Caldwell Town Board took charge of the campaign against the pests this year. Missaukee county furnished the white arsenic free, but the township paid for the other ingredients in the bait, also the cost of mixing. The work was all done in the town hall at Arlene, and each farmer in the township was notified to appear on a certain date and take away his share of the material. So impressed were the farmers with the seriousness of the situation that they turned out as requested, almost to a man.

At the town hall the process of man-

ufacturing the bait was carried out according to a well planned system under the direction of the township supervisor, Frank Bowerman. Screened sawdust was shoveled through a window from the wagons outside and was measured and mixed with the dry poison in five-bushel lots. After shoveling the dry mixture into an old sapper, it was wet with molasses and salt dissolved in water, thoroughly mixed, and then sacked up for use. So carefully was the work systematized that a continual stream of sawdust passed in through the window, through the mixing boxes, and out of the door to the waiting farmers.

Fighting grasshoppers is not an individual problem, and the method used in Caldwell township shows how much more effective the attack may be made when the community meets the problem as a whole.—H. L. BARNUM, County Agricultural Agent.

REGISTERED SHORTHORNS IN ANTRIM COUNTY.

THE last addition to the county's pure-bred live stock was brought to this county by Mr. Fred Smith, of Elk Rapids. Mr. Smith is one of the Board of Directors of the Michigan Live Stock Exchange and is very much interested in the building up of the live stock standard for northern Michigan. He purchased this carload of Shorthorns in southern Michigan and shipped them to Antrim county. He has placed the entire load among the farmers here, who are getting the view of what this kind of live stock will do for the county as well as themselves. There have been over fifty head of registered cattle brought into this county since the first of the year.

Four other farmers of South Milton township who have engaged in Guernsey breeding and had previously purchased females, have purchased a Guernsey bull of Ballard Bros., Niles, Michigan. If this movement is kept up, there will be such a change in the live stock of this county that the value

will double every two years on cattle. Good live stock means more to this part of Michigan than any other one thing, from the fact that there are so many acres of good pasture lands, which are not valuable for cultivated crops on account of being hilly.

SUSPENDS PURCHASE.

THE Food Administration Grain Corporation announced May 30 it would make no further purchases of wheat flour, victory flour or cereal products, but would re-enter the market for flour probably early in the new crop year. All shipments of the American relief administration program have been completed, and there now is sufficient flour contracted for and in transit to meet other requirements, it was stated.

"The early publication of export statistics will show the total exports of wheat flour much in excess of the figure named as probable grain corporation purchases for this crop year," said a statement. "The grain corporation takes this opportunity of expressing its appreciation of the cooperation and support received from the flour mills and cereal manufacturers who have made these shipments possible.

MICHIGAN-GROWN ALFALFA SEED.

MICHIGAN-GROWN alfalfa seed is appearing on the market for the first time since the introduction of the crop into the state. Heretofore all Michigan alfalfa has been raised from seed imported from other states. The local seed is particularly valuable because of the fact that it has been produced by plants which are winter-hardy under Michigan conditions. The Michigan growers of alfalfa should be careful not to plant alfalfa seed which has been grown in the south, as southern seed will not be dependable in Michigan. Turkestan seed, for instance, will not withstand Michigan winters, while Peruvian seed and seed

grown in the southwestern states is also dangerous.

Only northern grown seed from the Dakotas, Montana, and Minnesota, or native alfalfa from the central and western states should be grown in Michigan. The Grimm, Baltic and Cosack are particularly hardy strains. When Michigan growers are producing a large amount of seed the production of alfalfa in the state will be on a much more dependable basis, and it has been demonstrated that the seed can be grown profitably in the state.

CONSERVE MAN-POWER.

WE venture the prediction that before next year the labor shortage will be so great that business men and farmers will be scrambling for men. To meet this condition labor-saving machinery should be brought into use everywhere and as rapidly as possible. Household work can be lessened greatly by modern electric equipment. Work on the farm and in the factory still offers an almost limitless field for labor-saving equipment to supplant or supplement muscle power.

Every manufacturer should as quickly as possible so improve his plant, and when necessary so equip it with labor-saving devices of every kind as to meet a great labor shortage.

With an enormous wheat crop assured, at high prices for the farmer; with general improvement in all agricultural conditions; with highway work getting under way on a very large scale; with a marked revival of general constructive activities; with a heavy immigration, the labor situation will soon become acute.

The wise man will be the one who now lays out his entire campaign to utilize to the fullest extent every labor-saving machine available.

BUYING POISON TO KILL GRASSHOPPERS.

The Farm Bureau of Wexford county has ordered five tons of poison for use in the drive against the grasshopper pest which is already beginning to appear in that district of the state. The poison will be furnished to the farmers at cost. The formula used by the farmers of Wexford county consists of salt, Paris green, sawdust and a little water. In one place where this preparation was used last year, 320 dead grasshoppers were found under one bean hill.—H. C. E.





Putting Zest in the Club's Program

THE Ceresco Farmers' Club, one of the oldest in the state, has pulled off quite a variety of stunts in the way of entertainment, as well as in good works in practical and progressive agriculture. Besides the officers and members believe that all work and no play really stunts one's enjoyment of life; and so something different is worked up at an occasional meeting of the club.

The writer and his wife are honorary members of half a dozen farmers' clubs around Battle Creek and attend many of the meetings. Some time ago we proposed to take some study pictures showing how some things were done many years ago when the oldest members were kids and went to the old district school.

There are some fine actors in the Ceresco Club, and, at the next regular meeting at the farm home of Mr. and Mrs. M. Nye, we will spend the entire day taking pictures of study scenes for the Michigan Farmer. Among them will be "The Old Country Church Choir," "Planting Corn," "The Old Oak-en Bucket," "Drop the Handkerchief,"

"Pitching Quoits," "Duck on the Rock," etc.

Costumes have been secured that belonged to the ancestors of two and three generations ago. A real old-fashioned well with long sweep, weight and oaken bucket, just as natural as those things looked seventy-five years ago, will be built for the purpose, just as is done in the moving picture studios. In fact, June 25 on the Nye farm will probably be the first stunt in making pictures with farmers, their wives, sons and daughters, in full characteristic make-up as in the movies.

There is much interest in the coming performance, and it no doubt will be the first ever pulled off in Michigan by real farmer folks and depicting the scenes in olden times on the farm, when Michigan was young and greener than it is now.

The accompanying pictures were taken some time ago. The panorama shows the members lined up just after dinner. All had stowed away in their tummies as much as they could, yet not a single one looks uncomfortable. The young folks turn out and even the

kids are on hand at each meeting when school does not keep.

One afternoon, instead of having the regular literary program, we posed a bunch of the oldest members in a game of "The Needle's Eye." These grandfathers and grandmothers had not played this game in about half a century; but they knew all the kinks in the details, and we shot them with the camera at the moment they saluted and changed partners. It is a typical scene, as natural as life, and the crowd out of sight back of the camera enjoyed it fully as much as the actors in this movie.

Then another bunch of these members, some of the most prominent farmers in Calhoun county, were taken on one side and we posed them in a pulling stunt. Supervisor Julius E. Crosby bet he could pull up his near neighbor with one hand, almost. So they sat down on the greensward, braced their feet together, and grabbed a short stout piece of fork handle in the attitude shown in the accompanying picture.

Each contestant had his seconds and

first lieutenant rooters, and a big muscular farmer acted as referee. He sighted his right eye along the fork handle and got it accurately adjusted plumb over the toes of the star contestants. A shot was fired from an adjoining battery, and the fight was on. There was intense interest for the next forty-five seconds and a big crowd of Ceresco folks, of both sexes, back of the camera alternately held their breath, cheered, and "sicked" 'em on until the agony was over and one contestant had his record busted for a spell.

It was a great day at this Farmers' Club movies, and no lives were lost.

And the next big day will be June 25 on farmer Nye's farm just outside the city limits of Battle Creek. The Ceresco Farmers' Club will put on a big day's work in movies that will illustrate things done on the pioneer farms during the early days in Michigan. And for the first time in agricultural journalism will these pictures of real farmer movies be shown in the Michigan Farmer.

J. H. BROWN.



An Expert's Idea on the Wool Outlook

By George T. Willingmyre

Bureau of Markets, United States Department of Agriculture

THE wool situation today seems to present a perplexing problem to those not closely in touch with the conditions prevailing throughout the world. The producer is in a quandary to know just what the future prospects are. He is asking, "How am I going to market my wool and what price will I receive?" The answer to these questions rests entirely on what action the wool producers will take in marketing this season's wool clip. It is within their power to make further progress in the pooling of their wool and cooperative marketing, or revert to the antiquated system of individual sale at a flat price regardless of grade or value.

With the war over, conditions are approaching normal. The question that should be put to the grower is: Are

you going to permit your system of marketing and practice to be unchanged, or are you going to keep abreast of the times and enter into the spirit of cooperation that is found everywhere? For the past few years all branches of the wool industry have been profitable and all indications point to a continuation of prosperity in this line. If the law of supply and demand regulates prices it would seem that the great demand made upon the wool industry during the war would be felt for some time. Great quantities of wool were used for military purposes and can never be reclaimed. This quantity in

normal times represented the available supply for the civilian trade. The war has also emphasized our dependence upon foreign sources for our supply of raw wool.

Increased Production and World's Supply.

The campaign which has been waged for the past few years for increased production of wool in the United States has been given new impetus, and a program for increased wool production in this country has become not only desirable but necessary. What would be the result and how would our army be sufficiently clothed if we were fore-

ed into a war which might affect our importations of wool from Australia and the Argentine? The supply of wool in the world is not large. This was learned when the war ceased, and it was later discovered that while some countries held larger stocks of wool than in normal times others were without supplies to meet their immediate requirements. The stocks of wool in the world are very badly distributed. The better distribution of these wools depends entirely upon the success and continued improvement of the shipping program. At present in this country, with the government holding large quantities of wool the total supply is not considered above normal, and the stock held, not including the Australian and South American, is considered of inferior class. (Con. on next page).

The outlook for the 1919 wool season is promising. The choice domestic wools desired by manufacturers and necessary for the production of certain goods will be found only in the 1919 wool clip. The government has decided not to hold auction sales during the period from July 1 to December 1. This should give the American wool producer an excellent opportunity of disposing of his wool and it looks as though there would be keen competition for the choice, medium and finer wools. At the recent government auctions held in Boston and Philadelphia, ninety-one to ninety-eight per cent of the offerings have been sold

regardless of their inferior condition. The demand was principally for the fine wools, the medium receiving a fair amount of attention, while the demand for low wools was exceedingly light.

According to recent advices from the west, the price for fine staple Montana wools has reached \$1.65 per pound, scoured basis, purchases at this price being made by several of the large wool dealers in the seaboard markets. This price is only a little less than the government price of last year, the price then being for fine staple wools from \$1.70 to \$1.80, clean scoured basis. Whether these high prices will

continue remains to be seen. The prices for wool in the far west are actually higher on a clean scoured basis than those prevailing at the government wool auctions in the east. Some wool dealers have shown hesitancy to speculate on wool at these high prices, and it is reported that many buyers in the west have received orders to reduce their clean scoured pound price limits. The manufacturers, at the close of the war when all government contracts were cancelled, found themselves with a plant and machinery bare. Large contracts have been taken by the manufacturers for future delivery and they have endeavored to buy sufficient raw

material to cover a portion of these orders. The wholesale and retail clothiers claim they are unable to meet and supply the demand for men's wear material and that they are able to obtain only from one-third to one-half of the material they require. This may be due to the readjustment in the wool manufacturing industry.

Prospects for the future seem exceedingly bright, therefore, and wool producers have no cause for fear regarding the marketing of the 1919 wool clip, since there is nothing in sight to change or alter the price of wool on the world's markets, especially for the choice, well-bred merchantable wool.

Fancy Strawberries for Local Markets

MY problem has been to get the most out of intensive fruit farming. My farm is small—a little less than five acres, and is mostly planted to fruit trees. After planting the trees, I was up against the prospect of waiting several years for any large income for the use of high-priced land near some large villages and small cities. My land is a deep clay loam—a brook flat well adapted to growing small fruits. I am able to make it very rich by applying poultry manure from a large henry on my place. I had grown strawberries for market in a small way for many years, and had demonstrated the possibilities of growing fancy strawberries by the hill culture.

First, I grew one-half an acre by this method. When placing the berries in a store in a village near by, I was unable to supply the demand. I have seen people buy a basket of berries, and carry them along the street showing the immense berries to persons they met, advertising them for me. I learned that people buy with their eyes, and are willing to pay for what pleases the eye. Last year I sold my crop for twenty-five cents per quart, or eight dollars per thirty-two quart crate.

Soil and Fertilizers.

For reasons I have stated, it seemed my best proposition to inter-crop my young orchards with strawberries. I had learned there are two systems of culture that produce the large sweet berries. The first thing to do was get my land in condition for planting. It had been plowed and well tilled before planting the trees—apples, cherries, pears and plums. In the spring all that was necessary was reploting, and harrowing until the soil was finely pulverized. The poultry manure mentioned is too rich in nitrogen to be a safe plant food for fruit to use alone. It should be amended by frequently scattering acid phosphate, and kait, when the latter can be economically obtained, on the dropping-boards in the henry. Any animal manure can be used. With the soil prepared and fertilized I was ready for setting it to strawberries. The only right time for planting strawberries is in the spring when the leaf first starts. My practice is to grow strawberries for transplanting in a separate propagating bed, so as not to dig plants in the fruiting bed, so I had well-grown plants ready for transplanting.

Selecting Varieties.

Those who plan to grow strawberries by the hill or hedge row system should understand that varieties making long tap roots are best. Such kinds stool out better, and make larger hills, and will bear very good crops for three years or longer. Varieties I have tested in southeastern New York for many years, and which I have found none as satisfactory, are Marshall, Wm. Belt and Brandywine. Others I think well of are Chesapeake and Senator Dunlap. These are male, or bisex-

ual, and need no other kind to pollenize them. They produce stamens on the blossoms and may be called staminate strawberries. It is thought that it is better to mix even the staminate, as some are bi-sexual to larger degree than others.

Those who practice the wide-row system, and plan to get the largest crop possible in one or two years, will want to plant part pistillate varieties, as the Edgar Queen, Haverland, etc. If these are planted, every third or fourth row, should be the staminate, to pollenize them.

My method of growing is by the hill and hedge row systems. When the soil is prepared for planting as described, I mark it in rows eighteen inches apart, with home-made wooden mark-

around the plants with the feet.

Cultivation.

Cultivation should begin almost the next day after planting, or before the ground is packed by rain, or weed seeds germinate. I use a light horse garden cultivator, that can be narrowed to less than twelve inches. When practicable, I cultivate both ways, so there is but little hand hoeing. This is not always practicable in young orchards, but nearly so in apple orchards with trees forty feet apart each way. When the runners begin to grow the plants should be hoed and the runners cut once a week. The cultivation and hand-hoeing must be kept up as long as the weeds grow if the hill culture is a success.

Very nearly as fine berries can be

be mulched. Rye, wheat or oat straw is preferred, but different kinds of refuse can be used that is available. I should have mentioned that, when setting the plants a plot of ground should be set, three feet by two for the propagating bed, and that it is well to set another plot to plants very close together each way to dig plants from to fill in where plants die, or may be killed by grubs.

Picking and Selling.

As very large berries solve the problem of marketing, so it does of getting the berries picked for those who could not be induced to pick small berries like to pick when not a very large number is required to fill a quart basket. The best pickers are women, and the same pickers have picked my berries for several years. I can leave them when I have other work. In the rush of the season, I sometimes get new pickers, and have to stay with them more. Children without their parents are often unsteady, and must be watched. The pickers use four quart carriers, and are given checks as they bring in the berries. Those who stay all through, I have paid two cents per quart, while those who pick only when the pickings are the best are paid one and one-half cents.

A large part of the berry crop has been sold to people who come to my place for them. Many customers from other villages or cities come by auto for berries, and at times I cannot supply this trade. Often the berries are ordered by telephone for days ahead, and often customers cannot be supplied. This is the point in the article I wish to emphasize, that the marketing of the berries takes care of itself, when cultural methods are right.—J.

IOWA HAS GOOD LAWS.

IOWA has repealed some of the dairy laws, and has gotten her legislation in such shape that it will be mighty hard sledding for some of the imitation products. For instance, regarding the sale of oleomargarine, words like "butter," "creamery," or "dairy," cannot be used in the advertisement or on the label, nor can the name of any breed of dairy cattle or illustrations of the same. This will put a heavy handicap on the sale of oleo in that state. Many of the manufacturers incorporate dairy terms in their advertising and on their cartons, and this will cause them to put out their product in a less misleading manner. If the legislators would go a step further and prohibit the use of milk or cream in the manufacturing of butter substitutes the business would have to stand on its merits, and we should see what we should see. Imitation evaporated milk has to have the fact plainly stated in letters that will attract attention, and imitation ice cream also has to be plainly labeled, so it would appear that Iowa is making a serious effort to protect her dairy industry as well as protect her consuming public.

How to Take the "Hop" Out of Grasshoppers

By Don B. Whelan

INTO a bushel of screened sawdust thoroughly mix, by sifting, a pound of poison, Paris green, white arsenic, or crude arsenious oxide. In a gallon of water dissolve three-fourths of a pound of salt and add one-half of a cup of molasses. Slowly pour this into the poisoned sawdust while the mixture is being stirred. Then add enough water to make a good stiff "mash."

This poisoned bait can safely be taken in the hands and spread broadcast. It should not be left in piles around the field, but should be well scattered. A bushel of this poison ought to cover about three acres of ground.

The best results from the use of this poison are to be expected when it is used late in the afternoon. Thus it will not dry out over night and will be fresh when the hungry hoppers go for it in the morning.

If put out in piles the chances are that there will be some casualties should live stock eat it, but if applied as recommended no trouble is likely to result. However, it is best to salt the cattle before applying the poison to their feeding-grounds, as they will then be less attracted to the mixture.

As one can readily see, the cost of making a bushel of this poison bait will be only the cost of the poison itself together with a little molasses and some salt. The sawdust, in regions where the grasshoppers are worst, can be had for the asking.

The greatest benefit can be obtained only when all of the farmers in a community, or in a group of communities, work together and spread poison on all of the grasshopper breeding ground. One farmer using this poison without cooperation, will get but temporary relief, and in order to protect his crops he must keep on using it throughout the summer, for the grasshoppers are sure to fly in from other breeding grounds.

er that marks several rows at a time, grown by the hedge row system. It makes light marks. The ground is lined the opposite way, so the plants can be set in check rows by using a line. The plants are set in in check rows eighteen inches each way. The method of transplanting is to insert a spade close to the line to make an opening for the plant, while another person places the plant in the opening, spreading out the roots, and setting the crown even with the surface of the ground. When a row is planted in this way, the soil is packed close



The Summer Dairy

By W. F. Taylor

IN possession of the very best pasture ever seen, with common cows averaging better than a pound of butter-fat a day, with a market at hand as good as ours, it would not be very strange if some reader in northern Michigan has not seen as yet any problem in summer dairying that is at all difficult to solve. In his case, summer is the one time when he positively knows that he is getting more out of his cows than it costs to feed them. On the state farm at Chatham they have forty acres of pasture that is now carrying thirty head of cattle. A hundred sheep have pastured on this area for a month besides, and the feed is still very good. The cows are getting a light feed of grain but are producing heavily and yielding a very good return from this wonderful forty-acre pasture.

There is not much question but that in northern Michigan the emphasis should be placed upon summer dairying. At least, such must be the case so long as there is much pasture going to waste in nearly every community. The fact that the weather is nearly always cool during the summer in comparison to the temperature farther south, and that the rainfall is quite equally distributed throughout the season, makes it pretty certain that pastures will continue good long after they have well-nigh failed in the region below the straits. Then, too, the winters are long and cold, and the feeds that grow in that section best are more expensive than our corn ensilage. Yes, they do grow some ensilage corn there, but corn is not a sure crop, and yields of ensilage are much less there than farther south. The state grew on the farm at Chatham ten and a quarter tons of oat and pea ensilage per acre last year. It

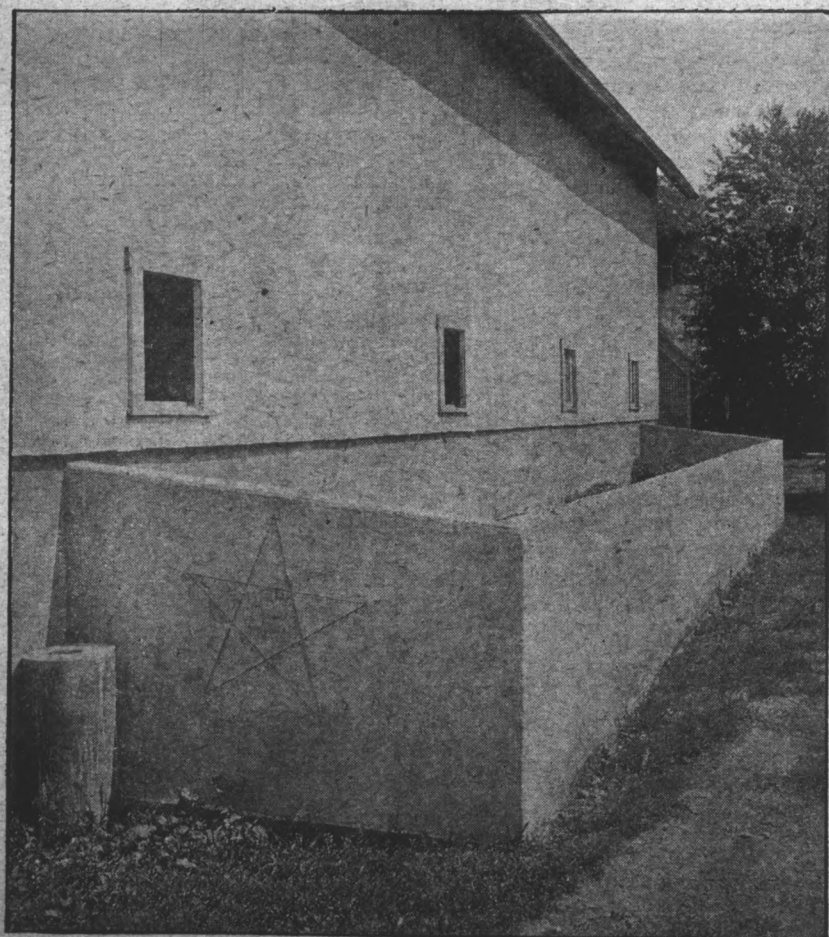
was even better than corn ensilage, and the yield was considerably above that of corn in our part of Michigan if average yields are considered. The corn, too, requires more labor to grow. The only trouble about the pea and oat ensilage is that such a crop would be worth more if ripened and threshed. It does not cost anywhere near as much as corn ensilage in that part of the state, in fact, I imagine it does not cost any more than corn ensilage in central Michigan, but when we figure the probable yield from a field of peas and oats heavy enough to cut ten tons of ensilage, and multiply the yield by the very high prices of these grains in the market, it will be seen that such ensilage is obtained by the giving up of a very profitable grain crop.

Notwithstanding this fact, were I dairying in the upper part of Michigan I should ensilo oats and peas, and clover also. I would go very slowly in the planting of corn, except in a few localities, but would use clover and oats and peas for ensilage largely instead. First, because the ensilage is better, and second, because yields of corn are apt to be very small.

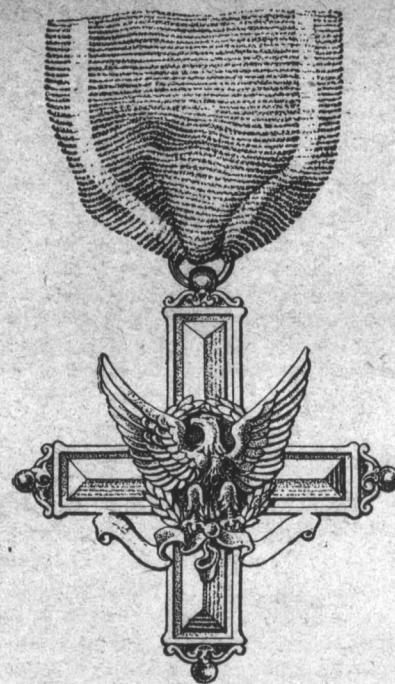
To those of us who live in the central and southern portions of the state, summer dairies are problems. Now, I am sure that most of you are thinking about a summer silo and wondering if there is much to the summer dairy problem when one has a good silo, filled with corn cut at its best? No, such a man has provided against the worst limitation in summer dairying.

Over a goodly portion of Michigan, pastures begin to fail materially the latter part of June, and two or three weeks later finds them very short. Last summer it was my privilege to

(Continued on page 927).



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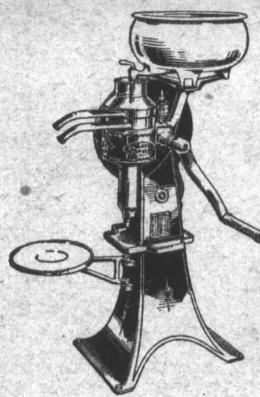
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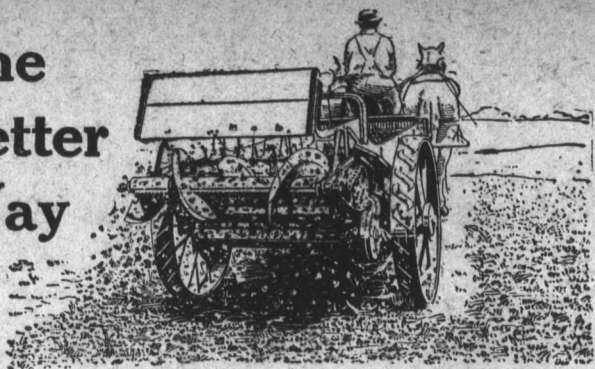
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Our Service Department

LINE FENCE DISPUTE.

My neighbor and I ran out the line between our farms two years ago, and he wished me to build my part of the fence right away, and he was to build his part so as to use it for a pasture. I built my part but he did not build his until this spring, and then he set it out on me about four feet from our line, and said he agreed to my part of the line, but not to put his part on the line. Now what can I do about it? Can I make him move the fence, sue for damages, call the surveyor, and must I pay the expenses of the survey myself?

K. M.

If we are to understand that when the line was run out stakes were set by the parties to mark the line as set by them, it does not matter whether they got the line where it should be or not—provided they did agree absolutely and finally that the line so run should be accepted and taken by them as their line. The line so agreed on and marked is henceforth the true line. No writing or record of this is necessary. All that is needed is that they wanted to fix the line to be used by them forever thereafter as their line. That being so they and their heirs and grantees are bound by that line—right or wrong, and no survey can change it, unless it be accepted by mutual consent to fix a new line. If a line has not been fixed, the law provided how a survey can be demanded by either party, and if not agreed to by the other or others, and their share paid, it can be added to their taxes.

As to the remedy, the party trespassing on may remove the fence if he can do so peaceably without any resort to legal proceedings; but a suit for damages would not be adequate relief, as it would not recover the land. However, if the neighbor insists on maintaining the fence as built, and it is thought worth while to insist on having that land or on having the fence straight, it would probably be better to go to a lawyer at once than to stir up bad blood by fighting over that fruitful source of bad neighbors, a line fence. If resort must be had to law it had better be at the beginning than in the middle of the fight, for the longer delayed the harder to finish, and the greater the danger that ignorance of what to do will lead to a fatal mistake. A bill in chancery is the most satisfactory remedy in such cases. A letter from a lawyer might be all that would be necessary.

JOHN R. ROOD.

BREAKING ALFALFA SOD.

I would like to know the best kind of a plow for alfalfa sod. Am told that I can easily plow it with two horses on a disc plow. Can that be done?

Allegan Co.

V. P. S.

The best kind of a plow to break alfalfa sod is any good common plow with an exceedingly sharp point or shear. Probably the disc plow would do the work, but disc plows are not satisfactory plows. You cannot govern the depth. They won't turn the stubble under; they will roll it over and over. On soft ground they will go in too deep, and on hard ground they will scarcely go in at all. If they strike a stone they will bound clear out of the ground. I tried to make a disc plow work several years ago and I gave it a thorough trial and made up my mind that on our soils that vary, that is, we have sand and clay in the same field, a disc plow was not practical at all.

A new point on a plow is not fit to plow alfalfa. You want one ground on an emery wheel so that the bottom edge is true and ground clear to an edge, almost as sharp as an edged it will survive.

tool. When we plow alfalfa sod I make it a point to be at home and I keep grinding the plow points and carrying them to the men, getting them to change their points every hour or so. If you don't do it you can't cut the alfalfa roots, but when a point is sharp and ground at the right bevel, there is little trouble in plowing alfalfa satisfactorily.

C. C. L.

SHEEP ON SHARES.

I have read with interest and amusement an article in a farm paper explaining how a city firm proposes putting out sheep on shares on Michigan farms. The said firm to furnish the sheep and the farmer to give them good care and feed them and give the promoter one-half of the wool and one-half of the lambs. This seems to me like a very one-sided division of the income from the flock. What do you think of a farm paper encouraging farmers to enter into such a partnership scheme?

C. H. E.

This is a modern promoter's idea of the old system of putting sheep out to double. No intelligent farmer would think of feeding and caring for a flock of sheep during the year and giving some slick city promoter one-half of the income from the business. It means that "Shylock" is exacting his pound of flesh in terms of one hundred per cent interest. I am sure that a paper that allows such propaganda to go through its editorial rooms is not edited by men familiar with sheep farming here in Michigan.

If you will refer to page 350 in the March 1 issue of the Michigan Farmer you will find an article by E. L. Vincent explaining the old practice of putting sheep out to double. This article seems to have created considerable interest and promoters have approached us with schemes to put out sheep on Michigan farms on a half-and-half basis, but we have refused to lend our columns to such propaganda.

In a few instances breeders of registered sheep have found it profitable to themselves and to progressive farmers to put breeding ewes out on a half-and-half basis; the farmer feeding and caring for the flock, having all of the wool and one-half of the lambs. In such cases the owner usually does all of the advertising and selling. As a commercial proposition such an arrangement is too much one-sided for any practical farmer to think of entering into.—The Editors.

SOWING MILLET TO SUBDUCE QUACK GRASS.

I have a field of corn stubble with quack grass in. I intended to disc until the last of June, then sow to buckwheat and plow under before the quack headed, but will be short of hay. Could this be seeded to millet and cut for hay without the quack going to seed? If it could, when would be the best time to seed? I know nothing about millet.

Clinton Co.

J. A. W.

Millet if sown quite thickly would tend to smother the quack grass almost as much as buckwheat, although it wouldn't leave the ground in as melow a condition if you wanted to put in some other crop without plowing.

I wouldn't advise discing this ground to prepare it. I would plow it because discing isn't thorough enough; it won't get the quack grass. I would plow the ground late in the spring, wait until the quack grass comes up, prepare it thoroughly, and seed heavily to Hungarian grass the middle or last of June. Use a half bushel of seed to the

acre so that you will have just a mat plow alfalfa. You want one ground on an emery wheel so that the bottom edge is true and ground clear to an edge, almost as sharp as an edged it will survive.

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UTILIZING HAYING MACHINERY.

THE amount of hand-labor usually expended in hay-making can be reduced considerably on many farms by proper management and the use of the proper implements. It isn't always the man with the most implements who gets along the best, but the man who has the right ones, keeps them in repair and knows how to manage his work will secure the biggest return from his labor.

It is possible now, with improved methods of farming, for one man to make his entire hay crop, if not too large, with the help of his family. A large number of such cases were pointed out last year when the war made labor so scarce. The writer knows one man who put up some twenty acres of clover hay with the help of one man, and his wife who drove the horse to the carrier in the barn. While farmers do not care to repeat the operations under present conditions, many will have learned how machinery facilitates farm work and enables them to do with as little hired labor as they possibly can.

With such implements as hay loaders and barn hay carriers or stacking tools it would have been impossible to save all the hay crop last year. And this year these tools will prove quite as valuable in getting the crop in before it becomes damaged by rain or long exposure to the sun and dew, for long exposure to the sun and dew does almost as much damage to hay as a rain.

Another thing that will return big service is the providing of ample conveniences to save time and steps at the barn and in the field—such as an easy and quickly adjusted hitch on the loader, duplicate whiffletrees at barn, plenty of rope and a sufficient number of pulleys, etc.

It is pretty hard to hurry the curing of hay before a coming rain without a hay tedder. The tedder will lift the green hay out of the stubble and leave it in loose bunches so that any air stirring will hasten curing or drying. This may mean the saving of several loads of hay before a rain or evening. The men may also be sent to the field earlier and labor used to better advantage.

Another instance of a method of time-saving might be pointed out. Where a hay loader is in use the hay is often taken from the swath or taken from a windrow which was raked by a sulky rake. Both of the methods have advantages. Loading from the swath requires considerable driving around the field with the loader hitched behind the wagon. A great deal of turning is required to load from a windrow made by a sulky rake and a great deal of hay must be kept raked in advance of the loader. When using a side-delivery rake a continuous windrow is made round the field which the loader can follow with a minimum number of short turns and a load put on the wagon without driving very far.

Curing hay partially in the windrow has become a common practice in many sections of the country. When the weather is clear, warm, and the sun hot, special advantages are obtained by curing hay in the windrow and a better quality of hay secured. For this purpose the side-delivery rake is being used more and more, especially on large farms, the hay being raked before it is quite cured and left to finish the curing process in the windrow. Sulky rakes serve the same purpose excepting that the results are not so uniform and the hay is not left in such loose bunches.

J. L. J.



Just You Ride

More Than Half a Million Motorists Now Praise It

In An Essex

No other proof is needed to win you to it. Thousands have placed their orders upon the demonstration revealed in a short ride. Its performance is so convincing that one is not left with indecision as to its value.

Consider What Thousands Say

On every hand you hear praise for the Essex. Its newness created an interest that sent hundreds of thousands to Essex stores to see it. On the first day more than 5,000 rode and were won by its performance.

Every day of the past four months has seen a swelling tide of admiration until now all are saying the finest things for it.

What Is It That They Admire?

Is it performance or appearance—low cost or economy of operation?

One speaks of one quality, another of some other feature.

That is accounted for by the experience those persons have had with other cars.

The man who has owned a good light weight car recognizes in the Essex a wider power range. He sees a complete car. It has features he had never hoped to obtain in any car selling within his price range.

The man experienced with fine cars sees in the Essex an equal quality to that with which he is accustomed but at an immense saving in operating and maintenance cost.

It Has Appealed To All Motorists

Interest in the Essex has come from all classes of motorists.

That proves the fulfilment of the aim of its builders. They intended it should be the car that would embody all the advantages of the two accepted types of cars.

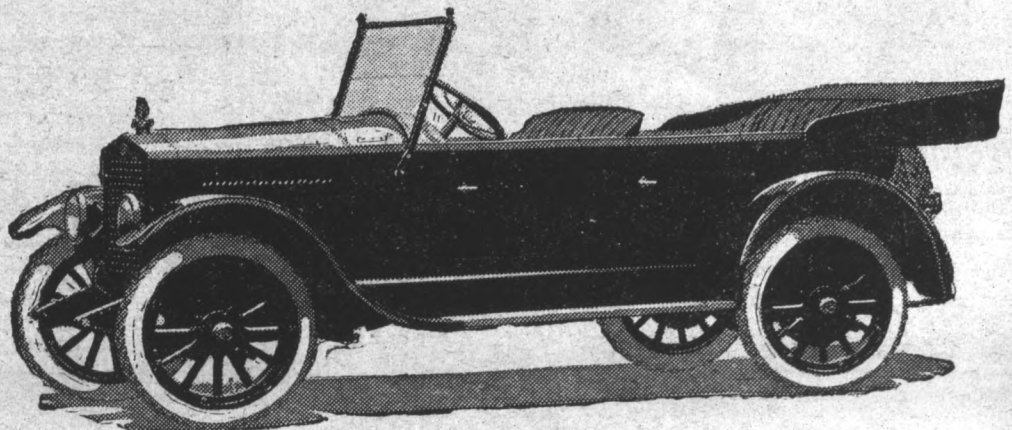
It should have lightness as well as durability—performance as well as low first cost—easy riding qualities as well as economy of operation.

They did not sacrifice the advantages of either—they combined them.

That is what all have recognized.

It is what we want you to know and thus our statement "Just you ride in an Essex."

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(47)



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Binder Twine Get our low 1919 prices. Farmer agents wanted. Sample free. THEO. BURT & SONS, Melrose, Ohio

News of the Week

Wednesday, June 11.

ILLINOIS, Wisconsin and Michigan in the order named, ratify the equal suffrage amendment to the federal constitution, while the governor of New York state issues a call for a special session of state legislature for June 16 to act upon the amendment.—The Methodist joint centenary campaign for \$105,000,000 passes its goal today.—Lloyd-George of Great Britain denies that an effort is being made to form a union of the South African states, and declares that these people enjoy full self-determination.—United States senate passes unanimously a bill to repeal the law authorizing federal jurisdiction over telegraph, telephone, cable and radio lines.—Interned alien sailors and officers numbering two thousand will be returned to Germany beginning July 1.

Thursday, June 12.

FIVE days' additional grace is granted Germany to sign peace treaty.—Three columns of rebel forces are reported to be moving toward the border city of Juarez, Mexico.—The lower house of congress reduces the proposed army for the coming fiscal year from 400,000 to 300,000 men.—Belgium entertains United States cotton dealers.—The Detroit street railway strike is ended by a temporary adjustment between the city, the company and the men.—Michigan legislature will consider a bill to create a commission to investigate the old dispute over the boundary line between Michigan and Wisconsin.

Friday, June 13.

JAPAN secures a place in what is now termed the "council of five" of the peace conference.—The Omsk government is recognized by the leading allied nations.—Germany will be permitted to retain her present compulsory military service.—The president-elect of Brazil will tour the United States, which will include a visit to Detroit.—The agitation against Japanese aggression continues to grow in China.—Stockholders of the General Motors Corporation approve the action of the directors in increasing the capital stock to \$1,000,000,000.—Missouri calls an extra session of her legislature to consider the federal amendment providing for woman suffrage.—French marines hoist the red flag when they fail to win orders for immediate demobilization.

Saturday, June 14.

JUAREZ is attacked by the Mexican rebel army.—A British fleet is bombarding the Bolshevik base at Kronstadt near Petrograd.—Siberian troops make advances west of the Ural mountains.—Holland refuses to assist in the allied blockade of Germany, should the latter country refuse to sign the peace treaty.—Honduras starts a move to form a union of the central American states.—The Michigan supreme court overrules the decision against the telephone systems of the state allowing the companies to impose increased rates.—Kansas will need 100,000 men to help harvest her record wheat crop.—Food prices provoke strike at Genoa, Italy.

Sunday, June 15.

FIGHTING continues at Juarez, Mexico, between the federal and rebel forces.—President Carranza of Mexico will not be a candidate for re-election.—Captain Alcock and Lieut. Brown, British officers, cross the Atlantic from Newfoundland to Clifton, Ireland, in sixteen hours and twelve minutes in a non-stop flight, winning the \$50,000 prize offered by the London Daily Mail for the first performance of this feat.—The workers' beer march in Washington of 100,000 demonstrators dwindles to a march of not more than 1,500.—United States Senate committee on judiciary asks restrictions on speech to protect United States against the Bolshevik movement.—The Soviet republic of Russia establishes its seat of government at Bessarabia.

Monday, June 16.

WHILE Mexican rebels are attacking Juarez, in which Americans are killed on the American side of the border, 3,600 United States troops are marched into Mexico and start an enveloping movement to surround the rebels.—When a pleasure launch upsets on the Warrior river, in Florida, nineteen persons are drowned.—Germany is to be allowed an army of 200,000 men for a period of three years.—United States Senate continues in discussion of the League of Nations and the peace treaty.

Tuesday, June 17.

FEW changes are made in the revised copy of the peace treaty delivered to the German delegates who pre-

sent the treaty to their national assembly at Weimar today.—Kronstadt, near Petrograd, Russia, and the forts across the bay, surrender to the white guards.—Mexican rebels are retreating from the border following the surprise attack by American cavalry; the U. S. troops have been recalled upon request of the Mexican government.—The presidents of twenty-four international labor organizations interested in the steel industry are at Atlantic City in conference on a program to attempt the organization of 400,000 steel workers.—New York, Ohio and Kansas ratify the woman suffrage amendment to the federal constitution.—King Albert and the Queen of Belgium will visit America this coming fall.—Canada asks for an army of 10,000 men.

THE MARLBORO DISEASE.

WHILE on a recent visit covering the small-fruit farms of Berrien county with County Agent Lurkins, attention was called to a number of diseased red raspberry plants. Investigation showed that the disease is known as Raspberry Curl or Yellows. Aside from this very little can be said about it as no definite parasitic organism is known to be connected with it.

One particular patch visited consisted of about three acres of Cuthberts highly cared for as regards cultivation and spraying. Early indications pointed to a splendid crop of fruit. Lately the plants have begun to take on a "sickly look," as the owner expressed it. The diseased plants have a stunted yellowish look. The leaves are small and curled slightly downward. The owner stated that the fruit from the diseased vines is worthless as it usually is about half filled out and badly shrivelled.

The history of the particular patch in question plainly shows the infectious character of the disease. Last year at picking time the owner's attention was called to a few plants that the pickers passed by on account of the berries being small and shrivelled to such an extent as to make them worthless. This spring the disease is more or less apparent throughout the entire planting. Due to the fact that the trouble appears to spread so rapidly it behooves the owners of raspberry plantings to be on the alert and stop the trouble before it ruins the planting.

In many respects the disease is similar to the troublesome "peach yellows." As in the case of this disease no definite parasitic organism is known to be connected with it. Again as in the case of "peach yellows" no control is known other than to destroy all diseased plants. Growers should be on the watch at all times for signs of diseased plants and destroy them at once for if the first canes are eradicated the entire planting may thus be saved. Nothing definite is known regarding the way in which the trouble is spread other than that cuttings from diseased vines carry the disease. For this reason particular care should be taken to observe young plantings. The plants for setting should be taken from marked hills that are known to be free from disease, as healthy canes and diseased ones may be found in the same stool. In addition, the disease has been found on wild berries, hence it is a good plan to destroy all plants in the immediate vicinity.

In New York the trouble has been called the "Marlboro disease," because this particular variety appeared to be more severely affected. Red varieties in general are more severely affected. In this particular instance the Cuthbert was badly affected while a planting of another variety nearby showed hardly any signs of the disease. So far no evidence of the resistant types in Michigan is available. Raspberry growers of Ohio claim that the King, Herbert, and St. Regis are not as susceptible as Cuthbert. Information from Michigan growers regarding the susceptibility of varieties is desired.



Before

A typical view of West Michigan Pike, Van Buren County, Mich., before Tarvia was used.

Tarvia
Preserves Roads
Prevents Dust

After

A view of the same section of the same road after Tarvia was used. Note smooth, dustless, easy-traction surface.

THE "Before" photograph above shows a section of West Michigan Pike, Van Buren County, Michigan, as it looked in the summer of 1916.

But the taxpayers of Van Buren County realized that such roads as this not only hampered the development of the county and made travel difficult, but that in the long run they cost the community more than good easy-traction roads.

The "After" picture shows the same road, photographed at exactly the same spot, after macadamizing and treating with "Tarvia-B."

West Michigan Pike is now a firm, mudless, dustless road, waterproof and automobile proof, over which full loads can be hauled to market with speed and economy.

And wisely, the taxpayers of Van Buren County, propose to keep this road new. Last year they gave it a second treatment with "Tarvia-B." Thus at a very small expense they protected their original investment and now have a fine piece of highway that brings their markets at South Haven and Watervliet miles nearer to each other.

The satisfaction felt over the vast improvement effected by the use of Tarvia is officially expressed in the following letter from the en-

gineer of the Van Buren County Road Commissioners, Paw Paw, Michigan:

"The Van Buren County Road Commission has been using Tarvia-B for some years to maintain about 20 miles of macadam road and it has given the greatest satisfaction. We have entirely got rid of dust and raveling and it is the opinion of many observers that the roads are getting better instead of worse.

"This year we had about two miles of macadam which was so bad that the State Highway Department advised covering it with gravel but instead we patched the holes with 'Tarvia-KP' (which by the way is something that is indispensable in our business) and treated it with 'Tarvia-B' and stone chips and today the road is in better shape than when new.

"We also have been trying out 'Tarvia-B' on a trunk line gravel road, the gravel testing about 75% stone. The results have been very good in spite of the heavy traffic. It produces a smooth, durable surface which will be better the second and third year than the first. We are now building a 30,000 gallon storage tank so that we can always have a supply on hand when we want it.

"Aside from treating the roads with 'Tarvia-B' there is no maintenance cost but a little attention to the holes and drainage.

"Tarvia has solved our macadam road troubles for us.

"DANA P. SMITH,
County Road Engineer"

The use of Tarvia will give any community or state all-the-year-round roads that are dustless in summer, mudless in spring and fall, frost-proof in winter, and that are easy to maintain at a low cost.

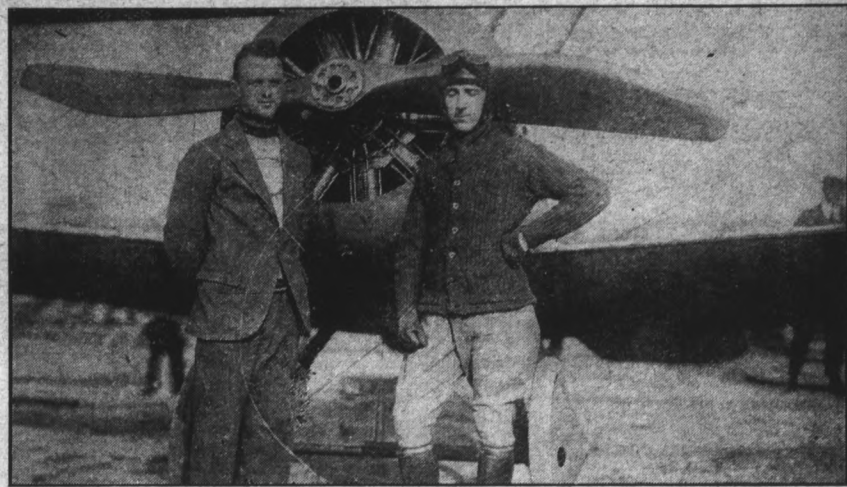
Illustrated booklet describing the various Tarvia treatments free on request.

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WORLD EVENTS IN PICTURES



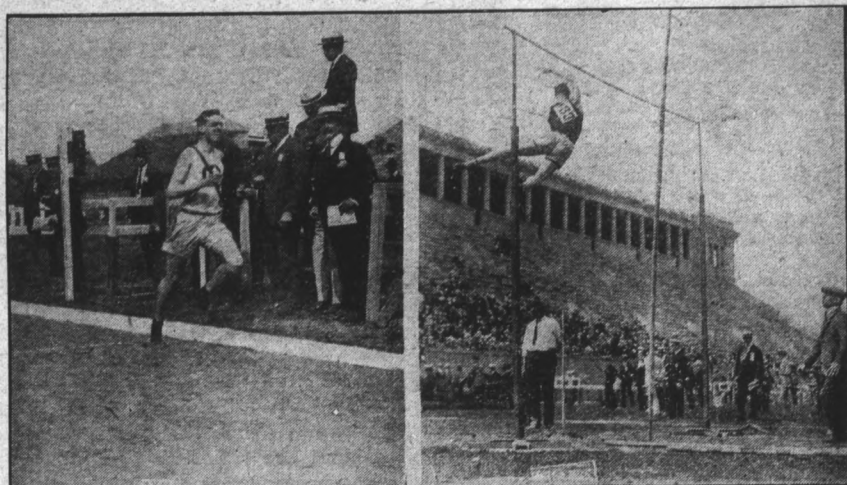
The above, or English side-car motorcycle taxi carries two persons with comfort. It is absolutely wind and weather proof.



Captain Mansell James, British Ace, Lost in flight from Massachusetts to Long Island. At his left is Lieut. Allan Clark, his former flying mate.



At an altitude of 2,500 feet in the air Lieut. Ormer Locklear changed from one biplane to another while a large throng watched breathlessly from the ground at Atlantic City.



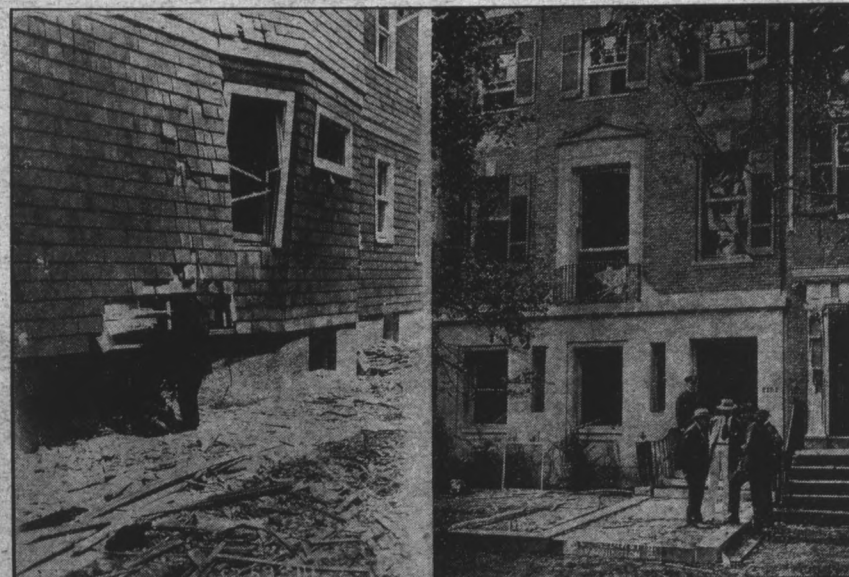
World's records smashed at Soldiers' Field, Cambridge Mass. Left—I. C. Dresser, of Cornell, breaking world's record for two miles, in nine minutes 22 1-5 seconds. Right—E. E. Meyers, of Dartmouth, going over the top at twelve feet six inches.



The last journey of the martyred Nurse Cavell ends. Her coffin being borne into the graveyard of the Norwich Cathedral, her native town.



President Wilson's little granddaughter, Eleanor McAdoo, is cutting the cake on her fourth birthday. Little Nell insisted on the five candles, as she explained, "I want one to grow on."



Left—Home of United States Attorney-General A. Mitchell Palmer, in Capitol, blown up as part of nation-wide terrorist plot. Bomber was blown to atoms when he stumbled over stone coping. Right—Side of home of Max Gold, Patterson, N. J., silk manufacturer, which was wrecked by infernal machine in Bolshevik plot.



As a part of the second nation-wide Bolshevik bomb plot the home of Judge Charles C. Nott, of New York, was blown up, killing a woman passer-by and hurling Mrs. Nott out of bed, stunning her. Judge Nott was out of town at the time. Insert shows Judge Nott.

The Fire Warden

By Robert W. Chambers

The
PAPEC
Guarantee



WE GUARANTEE
any Papec Ensilage Cutter to throw and blow ensilage perpendicularly to the height of any silo, with any power, provided the speed of the cutting wheel does not fall below six hundred (600) revolutions per minute. We also guarantee that any Papec Ensilage Cutter will cut and elevate more ensilage, with the same power, than any other blower cutter.

Papec Machine Company

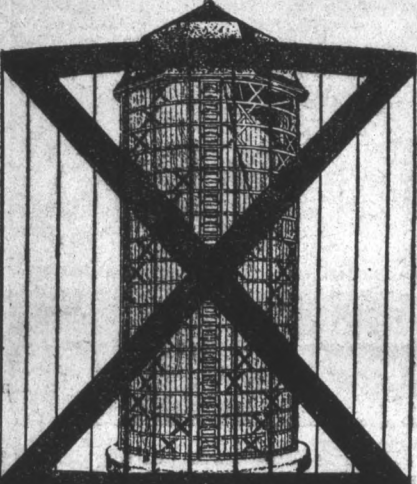
This strong guarantee is backed by nearly 20 years of unexcelled performance, during which time Papec Ensilage Cutters have always equalled—or excelled—every claim we have made for them.

A gas or kerosene engine developing as little as 3 h.p. operates the 10-inch size. Other sizes are the 13-inch, 16-inch and 19-inch.

It pays to "own your own" Papec. Our 1919 catalog shows how it will soon save enough to pay for itself. Send for copy today.

Manufactured by
Papec Machine Company
150 Main Street, Shortsville, N. Y.

Distributed by
Banting Manufacturing Co.
Toledo, Ohio
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What is the Cross Truss?

It's a modern building principle as applied to silo construction. In the *Saginaw Liberty Silo* you will find from four to nine of these between every hoop, according to the diameter. They equalize all pressure and extend the holding power of the base anchors throughout the entire silo. So solid is this construction that no cables are necessary. And you will find this construction only in the *Saginaw Liberty Silo*—a Hollow-Well wood silo—the silo that makes better silage.

Over fifteen years' silo building experience are represented in the *Saginaw Liberty Silo*.

Write for latest silo information.
Address Dept. 370
The McClure Company
Cairo, Ill. Saginaw, Mich.

BARN PAINT \$1 PER GALLON
Get factory prices on all paints. We guarantee quality. We pay the freight.
Franklin Color Works, Franklin, Ind.

(Continued from last week.)
"Oh, you are quite right," she said; "let us leave what romance there may be in the world. My horse loves me like a dog. I am very happy to believe it, Mr. Burleson."

From the luminous shadow of her sombrero she looked out across the stretch of marsh, where from unseen pools the wild-duck were rising, disturbed by the sound of their approach. And now the snipe began to dart skyward from under their horses' feet, filling the noon silence with their harsh "squak! squak!"

"It's along here somewhere," said Burleson, leaning forward in his saddle to scan the swale-grass. A moment later he said, "Look there, Miss Elliott!"

In the tall, blanched grasses a velvety black space marked the ashes of a fire, which had burned in a semi-circle, then westward to the water's edge. "You see," he said, "it was started to sweep the vlaie to the pine timber. The wind changed, and held it until the fire was quenched at the shore."

"I see," she said.
He touched his horse, and they pressed forward along the bog's edge.

"Here," he pointed out, "they fired the grass again, you see, always counting on the west wind; and here again, and yonder too, and beyond that, Miss Elliott—in a dozen places they set the grass afire. If that wet east wind had not come up, nothing on earth could have saved a thousand acres of white pine—and I'm afraid to say how many deer and partridges and woodcock. It was a savage bit of business, was it not, Miss Elliott?"

She sat her horse, silent, motionless, pretty head bent, studying the course of the fire in the swale. There was no mistaking the signs; a grass fire had been started, which, had the west wind held, must have become a brush fire, and then the most dreaded scourge of the north, a full-fledged forest fire in tall timber. After a little while she raised her head and looked full at Burleson, then, without comment, she wheeled her mare eastward across the vlaie towards the pines.

"What do you make of it?" he asked, pushing his horse forward alongside of her mare.

"The signs are perfectly plain," she said. "Whom do you suspect?"

He waited a moment, then shook his head.

"You suspect nobody?"

"I haven't been here long enough. I don't exactly know what to do about this. It is comparatively easy to settle cases of simple trespass or deer-shooting, but, to tell the truth, Miss Elliott, fire scares me. I don't know how to meet this sort of thing."

She was silent.
"So," he added, "I sent for the fire-warden. I don't know just what the warden's duties may be."

"I do," she said, quietly. Her mare struck solid ground; she sent her forward at a gallop, which broke into a dead run. Burleson came pounding along behind, amused, interested at this new caprice. She drew bridle at the edge of the birches, half turned in her saddle, bidding him follow with a gesture, and rode straight into the cover, now bending to avoid branches, now pushing intrusive limbs aside with both gloved hands.

Out of the low bush pines, heirs of the white birches' heritage, rabbits hopped away; sometimes a cock grouse, running like a rat, fled, crested head erect; twice twittering woodcock whirled upward, beating wings tangled for a moment in the birches, fluttering like great moths caught in a net.

Now they had walked through the

silver-birches which fringed the pines as foam fringes a green sea; and before them towered the tall timber, illuminated by the sun.

In the transparent green shadows they drew bridle; she leaned forward, clearing the thick tendrils of hair from her forehead, and sat stock-still, intent, every exquisite line and contour in full relief against the pines.

At first he thought she was listening nerves keyed to sense sounds inaudible to him. Then, as he sat, fascinated, scarcely breathing lest the enchantment break, leaving him alone in the forest with the memory of a dream, a faint aromatic odor seemed to grow in the air; not the close scent of the pines, but something subtle.

"Smoke!" he said, aloud.
She touched her mare forward, riding into the wind, delicate nostrils dilated; and he followed over the soundless cushion of brown needles, down aisles flanked by pillared pines whose crests swam in the upper breezes, filling all the forest with harmony.

And here, deep in the splendid forest, there was fire—at first nothing but a thin serpentine trail of ashes through moss and bedded needles; and then, scarcely six inches in width, a smouldering, sinuous path from which fine threads of smoke rose upward, vanishing in the woodland half-light.

He sprang from his horse and tore away a bed of green moss through which filaments of blue smoke stole; and deep in the forest mould, spread like veins in an autumn leaf, fire ran underground, its almost invisible vapor curling up through lichens and the brown carpet of pine needles.

At first, for it was so feeble a fire, scarcely alive, he strove to stamp it out, then to smother it with damp mould. But as he followed its worm-like course, always ahead he saw the thin, blue signals rising through living moss—everywhere the attenuated spirals creeping from the ground underfoot.

"I could summon every man in this town if necessary," she said; "I am empowered by law to do so; but—I shall not—yet. Where could we find a keeper—the nearest patrol?"

"Please follow me," he said, mounting his horse and wheeling eastward.

In a few moments they came to a foot-trail, and turned into it at a canter, skirting the Spirit Water, which stretched away between two mountains glittering in the sun.

"How many men can you get?" she called forward.

"I don't know; there's a gang of men terracing below the lodge—"

"Call them all; let every man bring a pick and shovel. There is a guard now!"

Burleson pulled up short and shouted, "Murphy!"

The patrol turned around.

"Get the men who are terracing the lodge. Bring picks, shovels, and axes, and meet me here. Run for it!"

The fire-warden's horse walked up leisurely; the girl had relinquished the bridle and was guiding the mare with the slightest pressure of the knee and heel. She sat at ease, head lowered, absently retying the ribbon on the hair at her neck. When it was adjusted to her satisfaction she passed a hat-pin through her sombrero, touched the

bright, thick hair above her forehead, straightened out, stretching her legs in the stirrups. Then she drew off her right gauntlet, and very discreetly stifled the faintest of yawns.

"You evidently don't believe there is much danger," said Burleson, with a smile which seemed to relieve the tension he had labored under.

"Yes, there is danger," she said.
After a silence she added, "I think I hear your men coming."

He listened in vain; he heard the wind above filtering through the pines, he heard the breathing of their horses, and his own heart-beats, too. Then very far away a sound broke out.

"What wonderful ears you have!" he said—not thinking of their beauty until his eye fell on their lovely contour. And as he gazed the little, clean-cut ear next to him turned pink, and its owner touched her mare forward—apparently in aimless caprice, for she circled and came straight back, meeting his gaze with her pure, fearless gray eyes.

There must have been something not only perfectly inoffensive, but also well-bred, in Burleson's lean, bronzed face, for her own face softened into an amiable expression, and she wheeled the mare up beside his mount, confidently exposing the small ear again.

The men were coming; there could be no mistake this time. And there came Murphy, too, and Rolfe, with his great, swinging stride, gun on one shoulder, a bundle of axes on the other.

"This way," said Burleson, briefly; but the fire-warden cut in ahead, canting forward up the trail, nonchalantly breaking off a twig of aromatic black birch, as she rode, to place between her red lips.

Murphy, arriving in the lead, scanned the haze which hung along the living moss.

"Sure, it's a foolish fire, sorr," he muttered, "burrowing like a mole gone mad. Rest aisy, Misther Burleson; we'll scotch the devil that done this night's worruk—bad cess to the dirty scut!"

"Never mind that, Murphy. Miss Elliott, are they to dig it out?"

She nodded.

The men, ranged in an uneven line, stood stupidly staring at the long vistas of haze. The slim fire-warden wheeled her mare to face them, speaking very quietly, explaining how deep to dig, how far a margin might be left in safety, how many men were to begin there, and at what distances apart.

Then she picked ten men and bade them follow her.

Burleson rode in the rear, motioning Rolfe to his stirrup.

"What do you think of it?" he asked in a low voice.

"I think, sir, one of those damned Storms did it—"

"I mean, what do you think about the chances? Is it serious?"

"That young lady ahead knows better than I do. I've seen two of these here underground fires: one was easy killed; the other cleaned out three thousand acres."

Burleson nodded. "I think," he said, "that you had better go back to the lodge and get every spare man. Tell Rudolf to rig up a wagon and bring rations and water for the men. Put in something nice for Miss Elliott—see to that, Rolfe; do you hear?"

"Yes, sir."

"And, Rolfe, bring feed for the horses—and see that there are a couple of men to watch the house and stables—"

He broke out bitterly, "It's a scoundrelly bit of work they've done!" and instantly had himself under control. "Better go at once, Rolfe, and caution

the men to remain quiet under provocation if any trespassers come inside."

CHAPTER II.

BY afternoon they had not found the end of the underground fire. The live trail had been followed and the creeping terror exterminated for half a mile; yet, although two ditches had been dug to cut the fire off from farther progress, always ahead the haze hung motionless, stretching away westward through the pines.

Now, a third trench was started—far enough forward this time, for there as no blue haze visible beyond the young hemlock growth.

The sweating men, stripped to their undershirts, swung pick and axe and drove home their heavy shovels. Burleson, his gray flannel shirt open at the throat, arms bared to the shoulder, worked steadily among his men; on a knoll above, the fire-warden sat cross-legged on the pine needles her straight young back against a tree. On her knees were a plate and a napkin. She ate bits of cold partridge at intervals; at intervals she sipped a glass of claret and regarded Burleson dreamily.

To make certain, she had set a gang of men to clear the woods in a belt behind the third ditch; a young growth of hemlock was being sacrificed, and the forest rang with axe-strokes, the cries of men, the splintering crash of the trees.

"I think," said Burleson to Rolfe, who had just come up, "that we are ahead of the trouble now. Did you give my peaceful message to Abe Storm?"

"No, sir; he wasn't to home."

The young man looked up quickly. "What's the trouble now?" he asked.

"There's plenty more trouble ahead, sir," said the keeper, in a low voice. "Look at this belt!" and he drew from his pocket a leather belt, unrolled it, and pointed at a name scratched on the buckle. The name was "Abe Storm."

"Where did that come from?" demanded Burleson.

"The man that fired the viaie grass dropped it. Barry picked it up on patrol. There's the evidence, sir. The belt lay on the edge of the burning grass."

"You mean he dropped it last night, and Barry found it where the grass had been afire?"

"No, sir; that belt was dropped two hours since. The grass was afire again."

The color left Burleson's face, then came surging back through the tightening skin of the set jaws.

"Barry put out the blaze, sir. He's on duty there now with Chase and Connor. Lord help Abe Storm if they get him over the sights, Mr. Burleson."

Burleson's self-command was shaken. He reached out his hand for the belt, flung away his axe, and walked up the slope of the knoll where the fire-warden sat calmly watching him.

For a few moments he stood before her, teeth set, in silent battle with that devil's own temper which had never been killed in him, which he knew now could never be ripped out and exterminated, which must, must lie chained—chained while he himself stood tireless guard, knowing that chains may break.

After a while he dropped to the ground beside her, like a man dead tired. "Tell me about these people," he said.

"What people, Mr. Burleson? My own?"

Her sensitive instinct had followed the little drama from her vantage-seat on the knoll; she had seen the patrol display the belt; she had watched the color die out and then flood the young man's face and neck; and she had read the surface signs of the murderous fury that altered his own visage to a mask set with a pair of blazing eyes. And suddenly, as he dropped to the ground beside her, his question had swept aside formality, leaving them on

the edge of an intimacy which she had accepted, unconsciously, with her low-voiced answer.

"Yes—your own people. Tell me what I should know. I want to live in peace among them if they'll let me."

She gathered her knees in her clasped fingers and looked out into the forest. "Mr. Burleson," she said, "for every mental, every moral deformity, man is answerable to man. You dwellers in the pleasant places of the world are pitiless in your judgment of the sullen, suspicious, narrow life you find edging forests, clinging to mountain flanks, or stupidly stifling in the heart of some vast plain. I cannot understand the mental cruelty which condemns with contempt human creatures who have had no chance—not one single chance. Are they ignorant? Then bear with them for shame. Are they envious, grasping, narrow? Do they gossip about neighbors, do they slander without mercy? What can you expect from starved minds, human intellects unenriched by all that you find so wholesome? Man's progress only inspires man; man's mind alone stimulates man's mind. Where civilization is, there are many men; where is the greatest culture, the broadest thought, the sweetest toleration, there men are many, teaching one another unconsciously, consciously, always advancing, always uplifting, spite of the shallow tide of sin which flows in the footsteps of all progress—"

She ceased; her delicate, earnest face relaxed, and a smile glimmered for a moment in her eyes, in the pretty curled corners of her parted lips.

"I'm talking very like a school-marm," she said. "I am one; by-the-way, and I teach the children of these people—my people," she added, with an exquisite hint of defiance in her smile.

(Continued next week.)

"By the Way"

STARTLING.

An Irishman was telling his friend of a narrow escape in the war. The Irishman said: "The bullet went in me chest and came out me back."

"But," said the friend, "it would go through your heart and kill you."

"Me heart was in me mouth at the time," said the Irishman.

THE POINT OF VIEW.

"Happiness," declaimed the philosopher, "is only the pursuit of something not the catching of it!"

"Oh, I don't know," answered the commuter. "Have you ever chased the last train on a rainy night?"

A STIFF ONE.

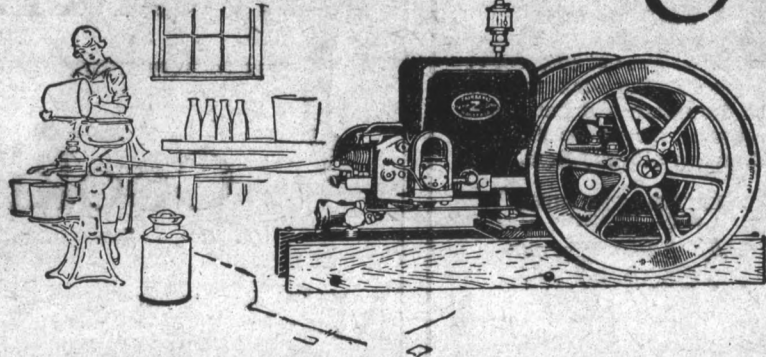
A farmer tells of a city lad who once worked for him. The lad was called one winter morning before dawn and told to harness the mule. The lad was too lazy to light a lantern, and in the dark he didn't notice that one of the cows was in the stable with the mule. The farmer, impatient at the long delay, shouted from the house:

"Billy! Billy! What are you doing?"

"I can't get the collar over the mule's head," yelled the boy; "his ears are frozen."

A herd of cows belonging to Deacon Hiram L. Bascom, of Harrisville, Alcona county, after feeding on ensilage from the bottom of a silo, considered very well, and commenced dancing a hoe-down all over a forty-acre field. The W. C. T. U. has registered a protest against the disgraceful episode, and men are gathering from all over that part of the state, with high determination that the innocent kine shall obtain no more of the stuff.

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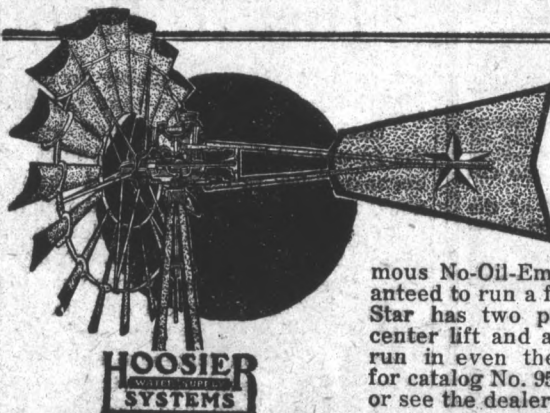
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WOMEN'S SECTION



Cooking "While You Rest"

Mrs. E. O. Swope

MANY country housewives do not have such conveniences as gas and electricity, so the next best thing in our home is the fireless cooker. A fireless cooker eliminates the drudgery of watching the cooking, and at the same times keeps the kitchen cool. Nothing ever burns, becomes over-done or boils dry; on the contrary, food so cooked is much better flavored than in the usual way of cooking.

The principle of cooking by this method is the retention of heat previously generated. The boiling hot food is tightly covered and quickly placed in the cooker, where the retained heat cooks the food. The difference in size of the various cookers now available necessitates the careful following of directions, but with a little experience one can plan so that ample time is allowed for the cooking of the food. Potatoes, beans, peas, rice, macaroni, etc., require only a few minutes cooking before being removed to the fireless cooker.

Oatmeal and other breakfast cereals put into the cooker at night are ready for breakfast the next morning, giving the farm woman time to do many little things around the house, or feed the chickens before it is time to put the meal on the table. This is quite an item, and is much appreciated by the housewife, who can accomplish more in the early morning hours while it is cool, when otherwise she would have to cook the breakfast over a hot stove.

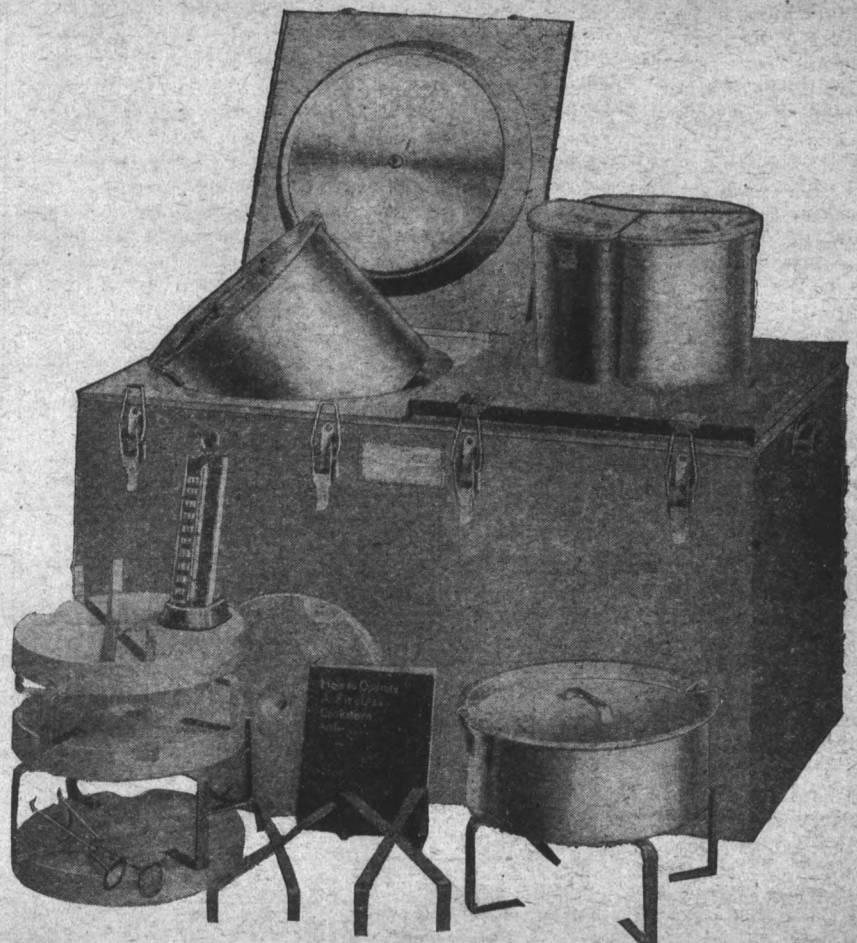
The following cooked in the "while you wait" fireless cooker, are a few easily prepared dishes which never disappoint: Boston baked beans, macaroni and cheese, Spanish rice, rice pudding with dates and raisins, baked ham, lamb stew, short ribs of beef with vegetables, beef loaf, vegetable chowder, spaghetti Italiane, cream tapioca pudding, fricassee of chicken and beef broth with barley. Try some

of your favorite recipes with the cooker, and note the smooth consistency of the food and the delicate blending of vegetable flavors with the meat.

While the fireless cooker is particularly adapted to the preparation of foods requiring long, steady cooking, it is not in any sense a one-purpose cook stove. It roasts meat and bakes pastry and cake without attention from

the housewife, the heat radiators over as well as under the pan distributing the heat evenly as in the range oven.

I hope many busy housewives like myself will try this simple device and find it as successful as I have. It not only saves the drudgery of cooking about a hot stove three times a day, but it also helps to save fuel, not the least important item.



This Cookstove Eliminates Much of the Drudgery of Hot Weather Cooking.

Just to Remind You It's Canning Time

SUMMER came so quickly to us in Michigan this year that canning time was upon us almost before the furnace fires were out. And if all housekeepers are like one I know, housecleaning and canning are fighting for supremacy, with the cleaning a steady loser. For of course, we must can. Our war lessons showed us the desirability of taking care of our surplus fruit and vegetables, and if we lived in a section fortunate enough to have a home agent or a visit from a specialist we have had demonstrated to us the superiority of home-canned stuff to that put up by commercial canneries.

Of course, you canned your rhubarb by the cold water method. That is, you peeled and cut the rhubarb, packed it into sterilized jars, filled the jars to overflowing with cold water, using new rubbers, and sealed tightly. Do not forget when gooseberries come along that you may can these in the same way, saving both time and sugar. And next fall if you want to experiment with cranberries they, too, may be done by cold water method.

When you open these fruits pour off

the water and cook down to half the original quantity. Then add the fruit and cook until of the desired consistency, sweetening just before removing from the fire. A pinch of soda added while the fruit is cooking will neutralize some of the acid and lessen the amount of sugar needed.

Now as to cold pack. Since the armistice has been signed and we feel we can speak our mind freely I have heard a number of housekeepers say they were not thoroughly convinced as to the superiority of this method for everything. These were women who have been canning for years with good luck.

The girls of the canning clubs and the younger women are, of course, strongly in favor of the new method. The others, while admitting it is best for vegetables, yet maintain that many fruits are just as well done the old open-kettle way. And many maintain that the old way is much less work.

Berries, however, keep their shape better and look better if done the cold pack way. To make the syrup for berries allow two quarts of water for every three pounds of sugar and boil five minutes. This makes a medium thin

syrup. Wash and hull berries, pack in jar, of course, jars and tops and rubbers must be boiled up in water, adjust rubbers and put on tops, turning down until the edge just touches the rubber. Then set in water which is boiling and boil ten minutes. Remove jars, tighten tops, invert to see if they do not leak, and store in a dark place. A good way is to save all your paper bags and slip each can in a bag. This helps to keep the color. Raspberries are apt to settle a great deal. To get around this let them stand fifteen minutes after the syrup has been added, when you will find they have settled enough so that you may add more berries.

The favorite method of canning strawberries in this household is one given by the bulletin issued by the department of agriculture before the war for use in canning clubs. The bulletin asserts that berries canned in this way will not rise to the top of the jar. This is probably true when a department worker cans them, but they seem to know the difference when a mere housekeeper undertakes the job.

"Use only fresh, firm, ripe and sound

berries. Prepare berries. Add eight ounces of sugar and two tablespoons of water for every quart of berries. Boil slowly for fifteen minutes in an enameled or acid-proof kettle, covered with a well-fitted cover while boiling. Allow berries to cool and remain over night in covered kettle. Pack cold berries in glass jars. Put rubber and cap in position, not tight. Sterilize for ten minutes in hot water bath outfit; if using a water-seal outfit or a five-pound steam-pressure outfit, sterilize six minutes; or if using an aluminum pressure-cooker outfit sterilize for four minutes. Remove jars. Tighten covers. Invert and cool to test the joint. Wrap jars with paper to prevent bleaching, and store."

Of course, you are going to make some of your berries into sun preserves. There are several ways of doing this. Here is one. Pick the berries early in the morning, choosing weather which promises to be hot and dry for two or three days. Wash and hull berries and weigh. Allow equal quantities of sugar and berries. Place the berries on a shallow platter. Make a thick syrup of the sugar moistened with just enough water or berry juice to dissolve the sugar. Pour syrup over berries, cover berries with a glass and set in the sun until the berries are soft and the syrup has jellied. The time depends upon weather conditions. Then store in fruit jars and simmer for ten minutes in hot water bath.

A second method calls for boiling the berries before placing in the sun. Equal quantities of fruit and sugar are

used. Make a syrup by allowing two cups of water for every three pounds of sugar and boiling until it threads. Add the berries and cook fifteen minutes. Then spread on platters and put in the sun until syrup jellies. This may then be stored as jelly, covering the top with paraffin.

Raspberries, cherries and peaches may be preserved by the sun method. The cherries should be pitted before weighing, and the peaches pared and cut in eighths or quarters, according to size. Cherries are especially good. Use the juice of the cherries to moisten the sugar for the syrup.

One woman always stores some strawberries uncooked and preserved simply with sugar. This takes a great deal of sugar, a pound and a quarter for every pound of fruit, but the result is more than satisfying when winter draws around. The fruit should be mixed with the dry sugar and every berry crushed. A wooden potato masher is a good "weapon" to use for crushing the fruit. Berries of all kinds, and currants may be kept in this way. The jars should be filled to overflowing and new rubbers used. Of course, jars, tops and rubbers must be sterilized.

If you have quantities of strawberries bottle some quice to combine later with apple juice for jelly. Strawberry juice itself is lacking in pectin and will not make jelly. But mixed with two parts of apple juice to one part strawberry juice it makes a pretty and delicious jelly. For raspberry jelly use equal parts of raspberry and apple juice.

Contributed Recipes

Strawberry Meringue Pie.

Have ready a baked crust, then wash and sweeten thoroughly one quart of fresh ripe berries. Fill in crust and cover with the beaten whites of two eggs, to which has been added one-half cup of sugar and one-half teaspoon of vanilla. Place in oven and brown quickly. This is excellent.—H. E. M.

Fruit Sandwich.

A pleasing sandwich is made by mashing berries, adding sugar and placing between thin slices of hot buttered toast. After the sandwiches are made, place between hot plates until the bread is a little softened and some of the juice absorbed.—Mrs. L. M. T.

Fruit Eggnog.

For each person beat one raw egg quite stiff, add one-half cup of fruit juice and beat again, then add one-half cup of whipped cream. Beat together thoroughly, chill and serve.—Mrs. J. J. O'C.

Strawberry Shortcake.

To serve six, use two cups of pastry flour in which is sifted three teaspoons of baking powder. Mix in two-thirds of cup of lard, or one large half-cup of sweet cream. Moisten with sweet milk, add a pinch of salt. Roll out the dough until it is creamy and smooth. Bake in two pie tins of equal size. Remove from the oven when it is a golden brown. For the fruit filling, take a pint of fresh hulled strawberries; crush them and add one cup of sugar. Mix them with a cup of whipped sweet cream. Spread each piece of the cake with butter and place the fruit between the layers. Serve while it is warm. In the absence of strawberries any fruit may be used, even canned fruit.—Miss Z. I. D.

Brownies.

½ cup butter,
½ cup sugar,
½ cup molasses,
one egg,
1 cup pecan or other nut meats,
1 scant cup flour,
1 level teaspoon baking powder.

Cream the butter and sugar, add molasses, egg and chopped nut meats and lastly the flour and baking powder sifted together. Bake the cakes in small

fancy pans well greased. Do not have the oven too hot.

Prune and Banana Dessert.

1 cup chopped, cooked prunes,
1 cup chopped walnut meats,
¾ cup sugar,
2 eggs,
4 tablespoons flour,
1 teaspoon baking powder.

Mix together the eggs, well beaten, and the sugar. Sift together the flour and baking powder, mix them with the nuts and prunes and add to the first mixture. Bake in well greased and floured gem pans one-half hour, and serve with a fruit sauce to which has been added one sliced banana.

Cheese Delights.

Mix cream with grated cheese, season with a little red pepper or chopped green pepper and spread on rounds of toast. Place on a tin in a rather hot oven until the cheese is slightly melted. Served with a salad, this makes an easily prepared Sunday night luncheon.

Fish Puff.

This dish may be made from left-over fish. Chop the fish and mix it with an equal amount of cold mashed potato. Season with salt and pepper and a tablespoon of melted butter. Add two beaten eggs, form into cakes, cones or sausage-shaped rolls and bake in a quick oven until brown.

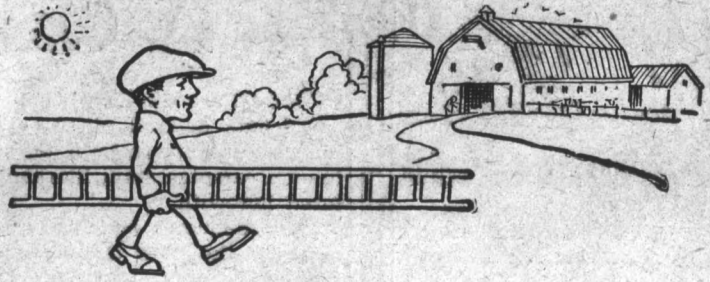
Spiced Rolls.

Take a piece of bread dough or baking powder biscuit dough, roll to one-half inch thickness. Brush generously with melted butter, and cover thickly with cinnamon, fine white sugar and raisins. Roll as you would jelly cake, then cut off slices one inch thick, and lay in a pan as biscuits and let rise. Bake twenty minutes. If baking powder dough is used, bake immediately.

Prune Goodies.

Soak prunes over night in cold water, boil until tender, not allowing them to break, and take out the pits. Grate a square of chocolate, mix with the beaten whites of two eggs and three tablespoons of powdered sugar. Dip prunes one by one in the mixture and put them, without allowing them to touch, on a buttered tin. Bake ten or fifteen minutes and serve hot.

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Our Boys' and Girls' Department

A Camping Stunt---By J. H. Brown

THESE are the days when the Boy Scouts and all other boys, think they are mighty lucky if they can get in on a camping stunt like the one pictured herewith.

Last summer a bunch of scouts and others in the Boys' and Girls' Clubs in Calhoun county, under the management of Secretary C. E. Ackley, of the county Y. M. C. A. camped at Lee Lake.

This is an ideal place for boys to camp out and has been thus utilized by Boys' Clubs and Scouts for several

undisputed sway in that neck of the woods. And that is just what the natural kind of a boy wants when he camps out away from home and out of sight of his mother for a whole week or more.

This summer there will be hundreds of boys on Michigan farms who belong to the Boy Scouts or the Junior Agricultural clubs, who will take a hike to some such a place as the picture illustrates. They will be in personal care of men of the best character who have official charge over them day and

the car, and the little daughter had a fine bed on the tonneau seat. We carried our grub along and cooked our meals on the car gas stove just as we have done hundreds of times when touring and camping on a trip across country.

That evening the boys had a camp fire going. In fact, it had been somewhat cool for a few days and this fire had been running night and day. The owner of the farm and woodlot had given the boys all the old stumps that stood around in the timber and openings. These had decayed more or less for years, and were easily extracted by the boys themselves; they were dry and made fine fuel.

As the picture shows, the boys hauled these old stumps in a farm truck by means of a long rope, with all the boys officiating as motive power, while they leaned heavily and eagerly in the direction they wish to get as speedily as possible. It was surprising what a big load these boys could haul on that wagon, and sometimes they changed the transmission gear from low to high that made the old stumps hop around some.

That night we spent a couple of hours around this camp fire of old stumps and while a number gave little talks on various topics under direction of Secretary Ackley. Then we retired for the night. Some boys slept in the tents nearby while others rolled up in their blankets and slept near the fire with their feet toward the heat and not far from it.

There were a number of tents in the camp, good beds, good grub, well cooked by an expert chef, fine sanitary conditions were maintained, and the boys lucky enough to get in on this stunt had the time of their lives.



seasons. The conditions are favorable for the boys to get to the lake from any point, yet it is more or less secluded from everything that has a modern times' look to it. The boys can go into camp and look on nature about as it was when the Indians held

night, so that their parents at home may have nothing to worry about.

We were invited to visit this camp at Lee Lake and stayed over one night with the boys. The picture shows our touring car in the background. The writer and his wife slept in the bed in

Our Prize Letter Contest

DEAR BOYS AND GIRLS:

I am glad that you are taking such an interest in this department, as the many interesting letters we are receiving would indicate. I only wish there was space here to print more of them. I hope your interest will continue and that you will not feel discouraged if your first letters do not win a prize. But just keep trying, taking pains to make each letter a little better and more interesting than the last and I am sure the prize will sooner or later be yours.

I would be glad to have any of our boys or girls write to me personally, at any time, about any matter in which you are interested.

Sincerely yours,
Editor Boys' and Girls' Dept.

FIRST PRIZE.

Why I Think Dad is the Best Man on Earth.

Of course, there are hundreds of reasons why Dad is the best man on earth, but there are a few especially good ones, which I should like to tell you about.

Naturally, the very first reason is that papa loves me very, very, deary, I know; and he is so appreciative of everything I do for him. It has always been that way ever since I was a wee mite of a girl and made little patty-cakes for him out of mamma's leftover cake dough.

Another thing, papa always tries to

grant my every request, if it is possible for him to do so, and if he cannot he tells me exactly why he cannot, and I feel much better than if he would say, "No! I can't!"

Papa always is very careful to tell the truth, I have noticed, and he says he feels so bad when I "story" to him. That makes me terribly ashamed and he forgives me. I hope this has made me a better girl.

He has always wanted me to have a good education, and I try to do my very best to get good marks for his sake.

When, by means of my education I am making money, Dad will never regret the time he sent me through school.

Now, haven't I told you enough so you can see what a kind, loving and adorable daddy I have? I wish every girl had one as kind as he.—Olive Boes, Bronson, Mich. Age fourteen years.

HONORABLE MENTION.

Why I Think my Dad is the Best Man on Earth.

There are so many reasons why I think my Dad is the best man on earth that I'm afraid that I may not name them all.

Every spring he has made us a swing out under the shade trees. He takes us trout fishing and teaches us how to catch brook trout. We enjoy that very much.

Papa is very glad when other chil-

dren come to visit us, and does all he can to help us have a good time.

Every year he lets us farm a piece of land and gives us what we earn from it.

Papa is very much interested in our school work. He takes us to and from school in bad weather. He also likes to visit school whenever he finds time and likes to have us attend Sunday school.

And last, but not least, because he's my Dad.—Alvena Leak, Hart, Mich. Age eleven years.

HONORABLE MENTION.

Why I Think my Dad is the Best Man on Earth.

I used to think that my father did not take the interest in me that he did in my other four sisters. I was the youngest, until last spring, and it was proved to me that he was the grandest Daddy in the world.

I was taken ill in school with acute pleuro-pneumonia. Before the second day came I was lost in grotesque delirium, due to the severe rise in temperature. Beginning with the first signs of the illness, my father was with me constantly, giving up his work on our 160-acre farm, and this being the busiest time of the year. The doctor advised a trained nurse and insisted on having one but father having had previous experience with the disease, would not even for a moment consider leaving me. And after

a steady struggle of eight days he broke the fever with an old-fashioned remedy that the doctor scoffed at. Through those restless, fretful, convalescing days, he was always there, and night after night he would sit up until long after midnight, playing his guitar, the only thing that would quiet me. During this time election was held, but he did not go, and he also had to cancel two or three important speeches that he had prepared, and above all, the work on the farm, just to be with me, as I could not stand anyone else only Daddy in the room.

So, you see, is it any wonder that I think him the "grandest of all men," for to him I owe the gift of my life, for the doctors said that, without such steady excellent nursing, the case would have been fatal.—Evelyn Curtiss, Lowell, Mich.—Age sixteen years.

HONORABLE MENTION.

Why I Think my Dad is the Best Man on Earth.

I think Dad is the best companion on a fishing trip or tramp you can find.

He is always full of fun and ready to crack a joke. If a fellow is doing something and gets stuck he is right there to help you out.

Where we live there is a strip of ground on the south side of the house that is my garden. When we first came here my father told me if I wanted any manure on it he would help me. I set to work, and pretty soon father came out and wheeled two or three loads. I guess he forgot what he had said in the house. In my estimation, father is the best all-around man a boy can have.—Orin M. Bailey, Bad Axe, Mich. Age thirteen years.

WASHTENAW COUNTY ORGANIZING BOYS AND GIRLS.

THE boys and girls of Washtenaw county are very much alive these days. It has been a common occurrence during the past month to learn of the boys and girls meeting, together with their parents, for the purpose of having explained to them, plans for the organization of Boys' and Girls' Club Work. The news of the work is fast spreading over the county, and at present the county club leader has a waiting list of communities where clubs are desired.

Bankers Support Movement.

The work was made possible this year in Washtenaw county, through the financial support of the county bankers. The money provided by them, together with the funds secured from state and federal sources, made it possible to employ a county boys' and girls' club leader for the entire year.

Pure-bred Stock Used.

Ten clubs have already been organized and all of these have selected pure-bred live stock or grain for their projects. The introduction of these pure-bred animals and seed, will assist very much in raising the standards of the live stock and crops produced in the different communities. Washtenaw county bankers and farmers believe their boys and girls are capable of making a fine showing in club work during the coming season. The County Farm Bureau is having splendid cooperation with the schools and other rural organizations, which are all working together in promoting the county club work.

CLUB NOTES.

Clubs of boys and girls have been formed in Wisconsin for the purpose of increasing the sheep industry. By the terms of one such club of young folks, at the end of four years the youthful shepherd or shepherdess will own a flock which represents one-half the increase of the flock, as well as one-half of the original number of ewes, providing any remain at the end of that period. The boy or girl must

be a member of the county sheep club, working under the supervision of the county agricultural agent or club leader. The terms of the contract require that the boys and girls must house and care for the ewes they receive from the company and to have them bred to a pure-bred ram which the company furnishes. Special precautions must be taken against dogs and the sheep must be housed nightly. W. W. F.

HOW I CARRIED OUT THE POULTRY PROJECT.

THREE years ago I enrolled in the Boys' and Girls' Poultry Club and have been a member ever since. The poultry club has been a great help to me in the past three years, in that it has given me the opportunity to be out among other poultry raisers and learn their way of doing, and in keeping records of my flock. Another great help I received in the poultry club was to have the opportunity to be on the demonstrating team that won second place at the Michigan State Fair. In the demonstration we told how to cull pens of hens or how to select the laying hen from the non-laying hen and how to select a pullet that will be a good layer. Also how to build a feed-hopper and how to tell the different breeds. Our team had the good fortune to visit the M. A. C. poultry plant during the summer and while we were there we met Mr. Foreman, assistant manager of the poultry department of the college, who very kindly showed us through the poultry building and gave us some very interesting talks on how to cull the laying hen from the non-laying hen.

Through my poultry work this summer I found that by working and being with the poultry you will obtain better results and also you will learn much more by the practical experience, where if you had just read about the work out of some book you would not have had the experience. I think another year, "if I join the poultry club," I will try and have a more complete report and more to tell about in "How to Produce a Laying Strain."—Elon Spotts, Hillsdale, Mich.

CUT SWEET CLOVER HIGH AND EARLY.

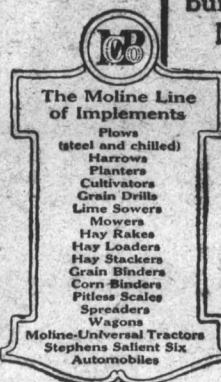
THE first crop of sweet clover must be cut high and early if a good second crop is to be grown. If sweet clover is cut the way common clover and alfalfa are cut, the second crop will probably be seriously injured and possibly ruined.

With a healthy, vigorous stand sweet clover should be cut when it is about twenty-four to thirty inches high, and before the appearance of any blossom buds. The second crop does not spring from crowns, as in the case of alfalfa, but is obtained from branches developed from the lower part of the old stalk—hence the importance of high cutting. The length of stubble which should be left varies with the rapidity of growth of the plants, but in Michigan the stubble should usually be left from eight to twelve inches high.

Sweet clover is proving of especial value on run-down and infertile soils, although it is being grown profitably on many soils of high fertility. It is an excellent pasture crop, and will produce satisfactory yields of hay and seed, even under poor conditions which would not give as good results with any other legume.

There is no one thing that adds more to the dignity and general appearance of a farmer than to drive into town with a pair of large, well-matched draft mares, hitched to a comfortable rig. Our farming of today demands strong prompt walking horses, and invariably the man who keeps light teams, does not give his farm good cultivation.

MOLINE MANDT WAGON



MOLINE-MANDT Wagons are now built with standard auto track of 56 inches.

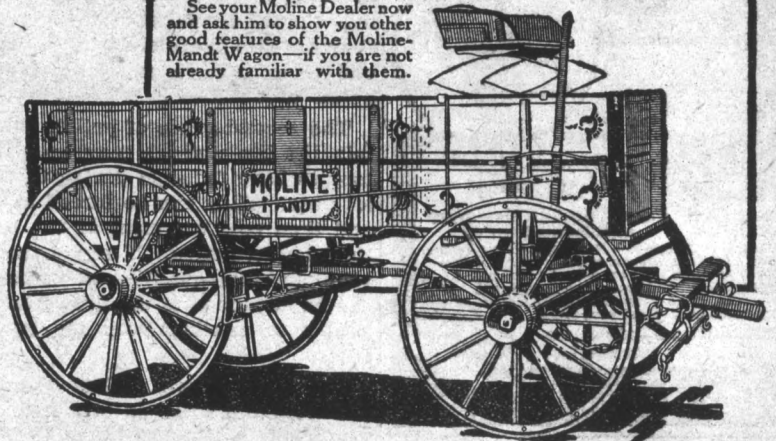
More automobiles are in use than all other vehicles combined, and road tracks are made by them. With your standard auto track Moline-Mandt Wagon you can now follow the auto ruts and your wagon will run smoother, easier, last longer and haul heavier loads.

Moline-Mandt Wagons are better than ever. Look where and long as you will, you won't find a more serviceable, easier running, durable and better looking wagon than the Moline-Mandt.

Constructed of the best, air-seasoned wood stocks, ironed in the most thorough manner, built by the most experienced and skilled wagon builders—these are just a few reasons for Moline-Mandt superiority.

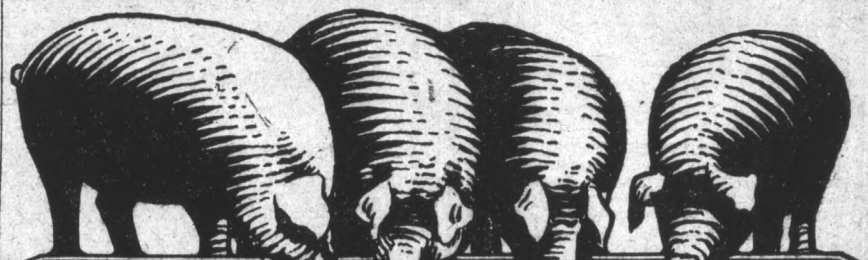
Features such as Moline-Mandt steel axle, steel bolster stakes and many others are found only on Moline Wagons.

See your Moline Dealer now and ask him to show you other good features of the Moline-Mandt Wagon—if you are not already familiar with them.



MOLINE PLOW CO. MOLINE, ILL.

MANUFACTURERS OF QUALITY FARM IMPLEMENTS SINCE 1865



SEMI-SOLID BUTTERMILK

"Make 'Em Grow Fast!"

Feed Your Hogs and Poultry

Semi-Solid Buttermilk

It Keeps Them Healthy and Gets Them to Market Earlier.

Semi-Solid Buttermilk is pure creamery buttermilk with nothing added—only the water is taken away. It is not modified by the addition of sulphuric acid or any other preservative. Its own natural lactic acid keeps it fresh.

WE GUARANTEE EVERY BARREL OF SEMI-SOLID

We guarantee that Semi-Solid Buttermilk is pure and unadulterated—sterilized and pasteurized. It is a safe feed and you will be satisfied with the results from feeding it.

SAVES GRAIN—SAVES TIME—SAVES MONEY

Saves grain because it balances the grain ration. Saves time because hogs and poultry fatten quicker when fed Semi-Solid. Saves money because you don't pay freight on the water content of the buttermilk, and you don't have to feed so much high priced corn.

Semi-Solid Buttermilk is used by the packers and other large feeders in car load lots. The Agricultural Colleges have demonstrated by actual test that Semi-Solid Buttermilk will fatten hogs faster and save grain.

Semi-Solid Condensed Buttermilk is put up in 500-lb. barrels—you have it ready to feed whenever you want it. Semi-Solid keeps fresh any length of time in any climate.

QUICK SHIPMENT FROM DETROIT FACTORY

Or From the closest of the Following Plants:
Chicago, Omaha, Winfield, Kans., Cincinnati, Lincoln, Neb., Sioux City, Kansas City, Denver, Benicia, Calif.

Semi-Solid is in Big Demand so Let Us Know Now How Much You Will Need. Send Your Order to

CONSOLIDATED PRODUCTS CO.

Dept. M. F., Home Office, Lincoln, Neb.

Read This Letter

April 23, 1919
Consolidated Products Company

We are glad to inform you we are deriving excellent results in feeding Semi-Solid Buttermilk to our hogs and poultry. We never had them grow so rapidly and develop such bone and flesh as they have since using Semi-Solid. Kindly ship us another barrel as soon as possible. We do not want to run out of this feed.
MORRIS FARM,
Dayton, Ohio.



Mention The Michigan Farmer When Writing to Advertisers

BEAUTIFY YOUR HOME

with ARLINGTON Guaranteed PAINT at FACTORY PRICES

An easily applied coat or two of Arlington pure white lead and linseed oil paint adds years to the life of any farm residence and greatly enhances its appearance and financial value. Don't experiment with ordinary ready-mixed paint that may peel off—Get Arlington—the paint that resists weather for years, spreads well, penetrates and does not peel off—guaranteed by a company that has made quality paints for 17 years. Made in colors to suit your taste and at a price to fit your pocket-book.

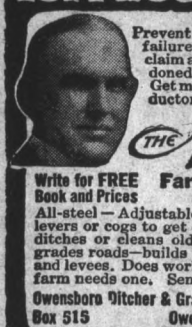
We can save you money on paint and enamels for any purpose—houses, porches, silos, barns, implements and interior decoration. For dairies use More-lite, the interior sanitary white enamel. All paints sold on money-back guarantee. Try some; return what's left if not satisfied. Reference any Canton bank.

Write for money-saving price list, color cards and other paint information.

THE ARLINGTON MFG. CO.

Capacity one million gallons per year.
902 Arlington Ave., Canton, Ohio

Ditches Terraces



Prevent crop failure. Reclaim abandoned land. Get my introductory offer on Model 28.

THE Martin

Write for FREE Farm Ditcher, Terracer and Road Grader Book and Prices. All-steel—Adjustable—Reversible—No wheels, levers or cogs to get out of fix. Cuts new farm ditches or cleans old ones to 4 feet deep—grades roads—builds farm terraces, dikes and levees. Does work of 100 men. Every farm needs one. Send your name.

Owensboro Ditcher & Grader Co., Inc.
Box 515 Owensboro, Ky.

10 Days Free Trial

Simplicity Fruit Dryer



Dries fruits and vegetables quickly, retaining sugar, starch, color and taste. Well made and easily handled. Evaporate an abundant supply of wholesome food for next winter and earn money selling to your friends and neighbors. Our free circular tells all about it.

The Ideal Pump Co., Wilmington, Ohio

THE SELF-OILING WINDMILL

has become so popular in its first four years that thousands have been called for to replace, on their old towers, other makes of mills, and to replace, at small cost, the gearing of the earlier Aermotors, making them self-oiling. Its enclosed motor keeps in the oil and keeps out dust and rain. The Splash Oiling System constantly floods every bearing with oil, preventing wear and enabling the mill to pump in the lightest breeze. The oil supply is renewed once a year. Double Gears are used, each carrying half the load. We make Gasoline Engines, Pumps, Tanks, Water Supply Goods and Steel Frame Saws. Write AERMOTOR CO., 2500 Twelfth St., Chicago

POULTRY

CHICKS AND PULLETS

Barron strain. From high producing hens that are bred right and handled right. All eggs from my own hens. Let us have at least three weeks to fill your order. Prices reasonable. Write for circular.

FOLLY COVE FARMS, R. R. 1, Holland, Mich.

100,000 BABY CHICKS

for 1919, sent safely everywhere by mail or express. Single Comb White Leghorns and S. C. Anconas. Grand laying strains. Strong, vigorous, hatched right kind. Tenth season. Satisfaction guaranteed. Order now for spring delivery. Prices right. Free catalogue. W. Van Appledorn, R. 7, Holland, Mich.

BABY CHICKS—11 Varieties, \$10 per 100 up, 2 weeks old 25c up, 4 weeks 45c up. Hatching eggs \$1.50 per 15 and \$3 per 100. Brd. White and Buff Rks. Buff. and White Orp. S. & R. O. R. I. Reds, White Wyand., S. O. W. Leg. S. & R. O. Br. Leg. Airedale Pups. Ch. Free. Sunny Side Poultry Farms & Hatchery, Blanchester, O.

Barred Rocks egg contest winners, eggs from strain with records to 290 a year. \$2.00 per setting prepaid by P. P. Circular free.

FRED ASTLING, Constantine, Mich.

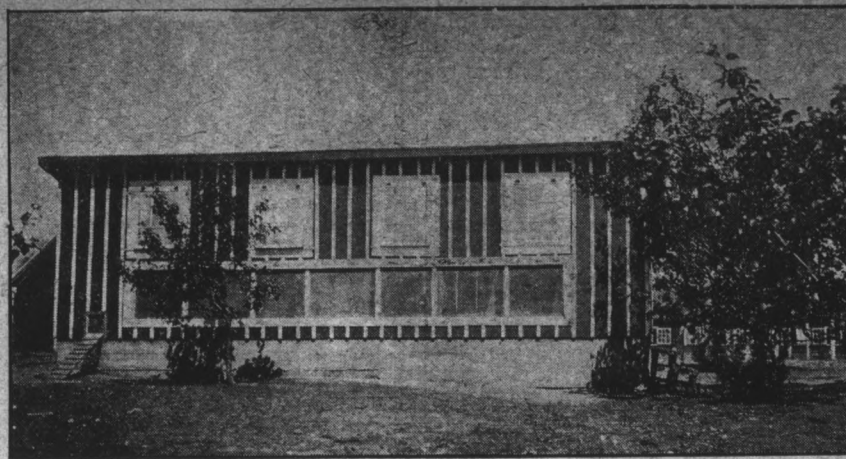
Barred Rock Chicks and eggs from healthy heavy layers. Price reduced. Catalogue free.

T. O. SMITH, Route 6, Chubbuck, Indiana

Baby Chicks Hatching eggs, seven leading varieties, best quality. Lowest prices. Catalogue free. Goshen Poultry Farms, R. 19, Goshen, Ind.

Baby Chicks: S. C. White and Brown Leghorns. Guaranteed to reach you in first class condition by parcel. Catalogue with price list free.

WOLVERINE HATCHERY, R. 2, Zeeland, Mich.



Grade the Pullets

THERE is a loss in farm poultry flocks from keeping all of the pullets that grow instead of culling them rigidly and keeping only the most vigorous of the best breeding. It will pay to divide the pullets into three grades. The first grade will be the birds which have feathered early and grown rapidly and were hatched from the best breeding stock on the farm. Such pullets should be suitable to keep until they are two years old with occasional culling to remove any birds that fall below expectations.

The second grade of pullets can contain the birds which may be satisfactory to keep for eggs during their pullet year. They can be forced for eggs and then sold for meat at the end of their laying period. If any of them develop unusual qualities of value they can be advanced to the first grade and held over another year for breeding stock.

The third grade pullets should be marketed the same as broilers. They will contain the birds that feather slowly and seem to lack the vigor that is necessary for good laying or breeding stock. They are the type of birds too frequently saved over in the farm flock and they seldom produce enough eggs to pay their cost of production. In addition they lower the vigor and general laying average for the flock and reduce profits and chances for flock improvement.

The pullets of the third grade should not be sold to beginners for breeding stock or layers as this is very unfair. The amateur breeder will try to be successful with them and fail, and a good friend to the poultry business and a successful breeder may be lost because of the first failure with poor stock. Too often breeders with good stock sell their cull pullets to amateur breeders and it always injures their future business and is thus as unprofitable to them as to the buyer.

The pullets of the second grade may not be good enough for the owner's flocks and yet be very satisfactory to a buyer who may wish a small flock of layers. It is fair to sell such stock as the buyer can often be very successful with them. In that way a new poultryman is made and such a man is apt to purchase higher class birds after enjoying some success with birds not quite so good.

It pays to keep the best grade of pullets where they can receive first-class care. This develops them into fall layers and if they lay all winter without too much forcing, the eggs laid in the spring can be used for hatching. Of course, these eggs will not be as good as the eggs laid by mature hens which have not laid often during the winter. However, they will produce very good chicks. This means that the pullets must be isolated from the cockerels and the old hens so that they can be given rations which promote a rapid, even growth and will not be disturbed at feeding time by other stock.

All the pullets should be given a separate range as soon as they have

feathered out so they can be easily separated from the cockerels. This gives the poultryman a better chance to study the pullets on the range and the constant observation enables him to grade them fairly accurately. Strangers watching a poultry flock will wonder how the birds can be told apart if they are the same age and of the same breed. The poultryman of experience soon learns that the young poultry have an individuality of their own and he soon learns to watch the progress of certain birds the same as he would study certain calves or colts.

R. G. K.

FIGHT THE LICE.

HENS which are troubled with lice are soon devitalized and this lack of vigor soon results in illness which might have been avoided by a strong bird. If a hen once becomes thoroughly infested with lice she seems to lose interest in dusting and then the lice have a better opportunity to thrive. Many strong vigorous birds seem to keep free from lice without any treatment and they do it because they dust frequently.

However, it pays to dust birds with some kind of insect powder or give them the blue ointment treatment. We like the blue ointment the best. Place a small bit of the ointment under the vent and rub it into the skin and then place a dab under each wing and the bird will be protected from lice for several months. Two treatments per year is usually sufficient. The blue ointment can be mixed half-and-half with vaseline. When birds are dusted with insect powder the operation must be repeated in a week or ten days to catch the additional pests that hatch after the first dusting. As the cost of treating for lice largely consists in the time required to catch and treat the birds, it seems as if the blue ointment treatment is by far the most satisfactory.

It is best to treat Leghorns at night as the birds are easily frightened and this causes a reduction in egg records and is also very trying to the kindly disposition of the operator. Sometimes a flock of the heavier birds like Barred Rocks, will be so tame that they can all be caught during the day by occasionally throwing out handfuls of grain to coax them near. The wire crook on the end of a stick is a handy implement with which to catch birds when examining or treating them for lice.

R. G. K.

"SEVENTEEN-YEAR LOCUSTS" A DANGEROUS FEED FOR THE CHICKENS.

IF the so-called "seventeen-year locusts" or cicadas, are plentiful in your locality, and you are keeping chickens that have a chance to run under the trees where the locusts are numerous, watch out for trouble, warns the United States Department of Agriculture. It might well be supposed that the numerous locusts would pro-

POULTRY

CHICKS CHICKS CHICKS

350,000 FOR 1919

By Parcel Post Prepaid. Delivered To You. Guarantee Live Delivery.



Our chicks are from pure bred farm stock, that are hatched right. Have utility and exhibition quality. Prices from \$14 to \$24 per 100. Bred to lay S. C. White & Brown Leghorns, Barred Rocks, Rose & Single Comb Reds, White Wyandottes, S. C. Anconas, Buff Orpingtons, S. C. Black Minorcas and odds & ends. Eggs for hatching \$8 to \$9 per 100. Combination offer on chicks, hovers and brooder stoves. Give us your order and we will do all we can to make you a satisfied customer, the same as hundreds of others. Before ordering elsewhere get our free illustrated catalog, get your order in early.

HUBER'S RELIABLE HATCHERY
EAST HIGH ST., FOSTORIA, OHIO.

HOMESTEAD FARMS

A Federation of Interests

Fall Chicks for Spring Layers—White and Brown Leghorns; Anconas; Black Minorcas; Barred Rocks; B. I. Reds; W. Wyandottes. All breeds hatching eggs. Turkeys, Geese, Ducks, Cockerels—for fall delivery. Rabbits—Belgians; New Zealand.

Send for explanation of fall chicks and illustrated catalog.

BLOOMINGDALE FARMS ASSOCIATION,
Bloomington, Michigan

Buff Leghorns, and White Leghorns, eggs and baby chicks from great laying strains, satisfaction guaranteed.

Dr. WILLIAM SMITH, Petersburg, Mich.

Barred Rocks Exclusively. Baby chicks all sold. Thanks to all our customers. Order early for next season. H. H. Pierce, Jerome, Mich.

Barred Rock eggs; 15 for \$1.50, 100 for \$8, postpaid. 62 hens laid 8867 eggs last year; average 140 eggs. Winter layers, Parks strain. Lewis B. Avery, Saline, Mich.

LOOK BABY CHICKS \$12 A 100 UP

By Special Delivery Parcel Post, postage paid 20 different thoroughbred breeds. Utility & Exhibition grades. Live delivery guaranteed. Capacity 100,000 weekly. Catalog free. Nabob Hatcheries, Gambier, Ohio.

OUR JULY CHICKS

Rose and Single Comb R. I. Reds and Barred Plymouth Rocks, should begin to lay in January or February. Vigorous, farm raised stock, bred for color and egg production. 25 chicks, \$4.25, 50, \$8, 100, \$16, prepaid by parcel post and safe delivery guaranteed. Interlakes Farm, Box 99, Lawrence, Michigan.

Chicks. We ship thousands, orders booked now for spring delivery, booklet.

FREEMONT HATCHERY, Box 12, Freemont, Mich.

Blue CUSTOM HATCHING Hens

Fifteen dozen eggs incubated and chicks boxed and shipped prepaid \$6.75. Send eggs fresh well packed prepaid. Order July & August chicks now. Many varieties send for circulars. Crescent Egg Company, Allegan, Mich.

Laybilt S. C. W. Leghorns

Large, great layers, pure white. "Our hobby." Strong Day-Old Chicks. Hatch every week, but please order in advance. 15c each in lots of 25 or over. Guaranteed delivery full count alive and lively—parcel post paid. Choice cocks, cockerels, hens & pullets after July 1st.

V. A. MORSE, Ionia, Mich.

English Barron S. C. White Leghorn

chicks at \$14.00 per 100; \$65 per 500 immediate special delivery. 6,000 chicks each week. Guarantee safe delivery full count of lively sturdy quality chicks that will mature into most profitable and persistent layers. Hatching eggs \$6 per 100. Write us your wants and send for valuable catalogue gives rearing & feeding methods.

DEVRIES LEGHORN FARM, Zeeland, Mich.

Fowler's Buff Rocks Cockerels \$4 up. Utility eggs for hatching \$2.00 for 15.

R. B. FOWLER, Hartford, Mich.

For Sale, Year Old Barred Rock Hens, Thompson Strain, \$3 each. Cocks \$5. Ferris Strain S. C. White Leghorn Year Old Hens \$2 each. Cocks \$3. Order at once. July delivery.

RUSSEL POULTRY RANCH, Petersburg, Mich.

Chix 15c up 75,000 selected utility, exhibition, trap-nested chicks, always 3000 on hand. Some 10 days old, several varieties. Hatching eggs. Catalogue Beckman Hatchery, 25 E. Lyon, Grand Rapids, Mich.

Baby Chicks S. O. White & S. C. Brown Leghorns. July chicks from bred-to-lay farm range stock. Price was \$15, now \$12 per 100 by parcel post prepaid. Order direct from this ad.

Sunnybrook Poultry Farm, Hillsdale, Mich.

For sale "Buy the Best" eggs for hatching from 200 egg strain Barred Plymouth Rock. \$2.00 per 15, \$5.00 for 45 eggs. H. B. PROCTOR, Grand Haven, Mich.

Hatching eggs Plymouth Rocks, all varieties, and Anconas. Illustrated catalogue 3c.

Sheridan Poultry Yards, R. 4, Sheridan, Mich.

Okah Poultry Farm. White Wyandotte's exclusively eight years breeding free range. 15 eggs \$2.00 prepaid. E. W. Banks, R. 3, Box 178, Lansing, Mich.

PULLETS Standard Bred S. C. Brown Leghorns, 3 months old, can ship at once. Price \$1.50.

WOLVERINE HATCHERY, R. 2, Zeeland, Mich.

R. C. Br. Leghorn eggs \$1.50 per 15, \$8 per 100. Pekin duck, \$1.50 for 3. W. Chinese goose eggs 40 cents each.

Mrs. CLAUDIA BETTS, Hillsdale, Mich.

Rhode Island Whites for eggs and meat; 15 eggs \$2.50, 30 eggs \$4.00. Chicks for sale.

H. H. JUMP, Jackson, Mich.

S. C. Brown Leghorns. Heavy laying strain. Farm range. Eggs 15 \$1.25; 30 \$2.25; 45 \$3; 100 \$6. Postpaid.

Floyd Robertson, R. 1, Lexington, Ind.

Snowy White Rocks Fishel Strain, dandy layers. Eggs \$1.50-15; \$4.50; \$7.00.

All prepaid. Mrs. Earl Dehnhoff, Vanburen, Ohio.

S. C. B. Minorcas. Eggs from pen 1, \$3.00 per 15. S. C. from pen 2, \$2.00 per 15. Incubator eggs \$7.00 per hundred.

R. W. MILLS, Saline, Mich.

Silver, Golden & White Wyandottes from fine quality stock. Eggs by E. post prepaid, \$3.00 per 15, \$5.00 per 30, \$8.00 per 50. O. W. Browning, R. 2, Portland, Mich.

vide a feast for the chicks, and they do, but this feast is not unattended with danger. Serious losses may result from the chicks eating too many of these insects. The wings and leg parts of the locusts seem to be quite indigestible, and are likely to obstruct the outlet of the crop in such a way as to cause the chicks to become crop-bound.

Little chicks are not troubled because they are too small to tear apart

and eat the locusts, but chicks that are more than four weeks old are large enough to devour the locusts and to have trouble as a result. The only feasible means of combating this difficulty is to move the chicks, if possible, to fields where there are few trees and where the locusts in consequence do not gather in numbers. Trouble also has been reported from mature fowls eating the locusts in great numbers with considerable mortality resulting.

The Summer Dairy

(Continued from page 915).

call at the home of a successful dairyman who keeps a fine herd of Holsteins. Some of these cows had given over sixty pounds of milk a day during the time when feed was plentiful and of good quality. When I called, about the middle of August they were giving about fifteen pounds per day each. The tester for our cow-testing association is just now in this part of the territory and from results of tests that are being made, it appears that yields of milk and butter-fat have fallen off to quite an extent during the last three weeks.

There are some advantages in summer dairying now. Prices of dairy products are nearly as good in summer as in winter, the few weeks of pasture we do get are most welcome, and the skim milk helps in the production of pork in the best part of the year for the hogs to grow and fatten.

The one puzzling question is, how shall we feed the cows? If we answer it in the usual way—let the cows feed themselves as best they can in the short pastures, they will fail in their milk flow until it will hardly pay for the trouble of caring for them. If we feed expensive hay and grain, shall we get our money back? Again, if we do not feed liberally now, if we allow the cows to fail in flesh, what will be the effect upon their production later on? To put the question in a different way, is there ever a time when we can afford to let the cows fail in flesh on account of feed costs? Without doubt, if one is to obtain the maximum production from any cow, she must be fed liberally every day from the beginning of the period of lactation. Irregular feeding, sudden changes in the ration, neglect to make the amount of feed consumed correspond with the production of the cow will result in a reduced yield of milk. On the other hand, if feeds cost more than the product of the cow is worth, the more we do in the dairy business the worse we are off, and liberal feeding will not save us from loss though it will probably help matters somewhat.

Economy in feeding demands that at least a part of the ration be composed of succulent feeds. The summer silo answers this demand. It should be on every farm where corn enough can be grown to fill it. It should be made small enough in diameter to insure the keeping of the ensilage in good condition. The cows should be given all they will eat up clean. We need not fear that they will fail to eat grass when turned into the pasture even if they have consumed a large amount of ensilage. They prefer the grass, and will eat it if it is to be had. Give them a liberal amount of ensilage, keep up the flow of milk and save high priced grain. If one has not a summer silo, some other form of succulent roughage must be provided if the milk flow is to be kept up during the hot weather. Oats and peas, or oats alone, are good feeds and will be eaten with a relish. Feed liberally. The more the cows eat, the more milk will be produced.

Oats and peas do not last long. By August first we must look for something else. If we have alfalfa, our problem is easy of solution. Alfalfa has no equal among the many possible

summer feeds. It is better green, but may be fed with good results in the form of hay. Early sweet corn will be ready to feed throughout a large part of the state, by August 15. The amount of feed furnished from a given area of sweet corn will depend on conditions. If the ground is but moderately fertile the yield will be small, but if it is enriched with a liberal application of manure results will be much more satisfactory.

The handling of any soiling crop means labor at a time when most of us have all we can do aside from any extra work. The larger the yield from a given area, the less the labor in proportion. If we must grow a soiling crop for the cow, let us grow it on good soil. Let us fertilize liberally and give the best possible culture to it if it is a cultivated crop. We want it to grow just as rapidly as possible and produce the largest possible yield. It will do this, if the soil is rich enough and we give the required culture.

More and more of the grains formerly fed to the cows are used for human food. This means that prices of these feeds will be high and profits resulting from feeding them reduced or cut off, or even turned into losses. By-products of the manufacture of grains into starch, and different forms of human food, gives us quite a list of feeds that are very useful in the feeding of the dairy.

We should know as much as possible about the real value of these feeds, and should avail ourselves of them whenever such investments promise a profit. No manufacturing plant runs primarily to make by-products. If for any reason they have accumulated in considerable quantity, the price goes down, because they must be sold and gotten out of the way. If one watches the market closely, he will find considerable variation in the prices of these feeds owing to this cause. Understanding conditions, he will be able to invest at such times at prices which will warrant liberal feeding. But generally speaking, dairymen must depend to a much greater extent upon roughage until the demand for human food is lessened. Until that time arrives, the problem of the summer dairy as regards economical production must be solved by the summer silo, or by growing soiling crops on well fertilized areas, by liberal feeding, and by intelligent buying and using of the by-products obtainable from time to time. If it is not found possible in this way, to produce sufficient amounts of dairy products to supply the demand then prices must go up. When the public understands the value of milk as a food, there will be no surplus milk.

The greatest problem in the successful handling of the dairy is that of price. Its solution must be approached from two directions. First we must ascertain production costs and get the information over to the consumer; next, we must not rest until the consuming public understands the value of milk as a food. The average consumer would be willing to pay even more for dairy products than he is paying now, if he could be made to understand first, that the producer is not getting enough, and second, that the product is worth more in proportion to its cost than other foods.

Have Your INDIANA SILO up in time - Order Now

YOU can get immediate delivery now of an Indiana Silo—from any of our several factories—and have it all up and ready when your corn or other silage crops are cut.

Over 65,000 of the most successful and prosperous farmers in the United States are owners of Indiana Silos. Some of them buy one after another and the demand from them and their friends and neighbors is so great that it is not often that we can supply you as promptly as we can now.

If you are going to have live stock to feed this winter you need a silo—the best silo. And remember there is no inflation in the price of the Indiana. That price is right. It gives you more silo service per dollar than any other silo you can buy.

Order now and be prepared for the winter. Write for easy payment plan and descriptive booklet.

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ALL-ROUND
TRACTOR
The World's Tractor

This tractor and one man do the work of two men and four horses. Fuel costing \$250 goes as far as \$700 worth of horse feed. Uses the horse implements you already have without expensive special hitches. Weighs no more than one large horse. Plows, harrows, drags, drills, cultivates, mows and pulls a binder. Increases the acreage you can cultivate and helps you get the work done right.

Write for the folder that tells what it can do for you.

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Lowdown, light draft. Loads and pulls without undue strain on man or team. Has solid bottom with chain conveyors. Pulverizes thoroughly and spreads evenly. 5 to 7 ft. wide. Spreads from 3 to 15 loads per acre, at your option, by merely shifting a lever.

Drives with heavy sprocket chain—no gears.

See the "New Idea" at your dealer's. Don't wait for him to see you as he is probably short of help. Insist on the "New Idea," and don't buy regrets by taking some other machine. If you don't know who sells the "New Idea," write us and we will give you his name. Get our Book—"Helping Mother Nature," which gives much new information about manure and soil fertility.

(2)

The NEW IDEA Spreader Co.
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We have found your Spreader to be most satisfactory. The light team, weighing only about 2000, handles it on practically all the farms. The evenness and strength of the spread after top-dressing with your machine, shows it is a tool no farmer can afford to be without if he wants results. J. H. McCLUER.

Two years ago I bought one of your spreaders, last year I got a second one. A good Manure Spreader is one of the best paying tools a man can have on a farm. We spread lime as well as manure with our NEW IDEA Spreaders. Would not think of running my farms without them. A. S. WELCH.

I have used your NEW IDEA Spreader for five years. Am so well pleased with the work it does, that I would not have any other. Has cost me only 30¢ for repairs and that was caused by my own neglect. F. I. WORTHINGTON.

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Is Your Thresherman A Grain Saver?

This is the most notable advance made in modern threshing. A device in the hopper returns to the separator the grain that would otherwise go to the stack. Users write us that this improvement saves one to three per cent more grain. Figure what that means to you.

Get the facts from any of the makers of North America's standard threshing machines listed below. Among these are the builders of the leading tractors and farm implements. All of them are prepared to supply threshing machines equipped with the Grain-Saving Stacker. Write to any of these for information.



View looking into hopper showing grain trap near stacker fan; also auger running from beneath trap for returning the saved grain to separator.

Grain Saving Stacker

LIST OF MANUFACTURERS

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 Banting Manufacturing Company, Toledo, Ohio.
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 Cape Mfg. Co., Cape Girardeau, Missouri.
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 Clark Machine Company, St. Johnsville, New York.
 Ellis-Keystone Agricultural Works, Pottstown, Pennsylvania.
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 Farmers Independent Thresher Co., Springfield, Illinois.
 Robt. Bell Engine & Thresher Co., Ltd., Seaford, Ontario.
 Dominion Thresher Co., Ltd., New Hamburg, Ontario.
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 Minneapolis Threshing Machine Co., Hopkins, Minnesota.
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 Sawyer-Massey Co., Ltd., (United States Agency), Moline, Illinois.
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A bull calf, sired by our imported "EDGAR of DALMENY"

recently sold in Scotland at the Perth Bull Sale for the record price of 2,100 guineas, or \$10,584.00 in our money. This goes to show the quality of the

ABERDEEN ANGUS

that Mr. Scripps is breeding. He enjoys seeing good stock on "Wildwood" and believes that THE BEST IS NONE TOO GOOD.

"Edgar of Dalmeny" won the Michigan Grand Championship last September at the Michigan State Fair and was a winner in his class at the Chicago International last December.

We have a few females with calves at foot and re-bred to "Edgar of Dalmeny" that Mr. Scripps has consented to sell to reduce the fast growing herd. Write To

WILDWOOD FARMS ORION, MICHIGAN

W. E. SCRIPPS, Prop., Sidney Smith, Supt.

Cloverly Angus Bred cows, heifers and bull calves of good breeding.
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Established in 1900.
 TROJAN-ERICAS and BLACKBIRDS (Blackcaps).
 Breeders and feeders of many International winners.
 Write For 1919 Bull Sale Catalogue
 WOODCOTE STOCK FARM, Ionia, Mich.

Breeders of Registered Aberdeen Angus cattle. Several choice bulls for sale.
 LANG BROS., Davison, Mich.

SOMETHING EXTRA IN GUERNSEYS—May Rose Bull Calf, Sired by St. Austell Dreadnought 34671, by Don Diavolo of Linda Vista, 23555, and from Miss Bess of Yellowdale, A. R. 533 lbs. B. F., and average record for three years of 510 lb. B. F., and a calf. Price \$200. Also several fine A. R. bulls of serviceable age. BALLARD BROS., R. 4, Niles, Mich.

Guernsey Pure Bred Bull Calves from one to two months old \$50 each "registered."
 WALTER PHIPPS FARM, 80 Alfred St., Detroit, Mich.

REGISTERED GUERNSEYS

Just two young yearling bulls left, ready for service. Come and look them over quick, or write. They are the good ones. Priced to sell.

AVONDALE STOCK FARM,
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Registered Guernseys

Yearling bull—\$150. Bull calf, three months—\$100; both nice May Rose bulls.
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GUERNSEYS—REGISTERED
 Containing blood of world champions
 HICKS' GUERNSEY FARM, Saginaw, W.S. Mich

GUERNSEYS must reduce herd, so offer a few choice females of Glenwood breeding also bulls, all stock of A. R. breeding, herd tuberculin tested.
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**Holsteins the Best
 Dual Purpose Breed.**

The Michigan, Iowa, and Nebraska State Experiment Stations report that in their competitive tests the Holsteins made a larger gain per steer at a less cost per pound of either roughage or grain than any of the other breeds. As voluminous and profitable milk producers and as valuable beef animals when their milking days are over, purebred Holsteins are firmly established as the world's leading dual purpose cows. If interested in

HOLSTEIN CATTLE

Send for our booklets—they contain much valuable information.

HOLSTEIN FRIESIAN ASSOCIATION OF AMERICA, Box 164, Brattleboro, Vt.

The Traverse Herd

We have what you want in **BULL CALVES**, the large fine growthy type, guaranteed right in every way. They are from high producing A.R. O. ancestors. Dam's records up to 80 lbs. Write for pedigrees and quotations, stating about age desired.

TRAVERSE CITY STATE HOSPITAL
 Traverse City, Mich.

TREATING CATTLE BLOAT.

THE danger to the animal from acute bloating is not that the distended stomach may rupture, for such an accident is almost unknown. The pressure of the gas-distended stomach, however, exerts a dangerous pressure upon the heart and lungs, with the result that animals dying from acute bloating usually die of strangulation through the inability to breathe with their compressed lung tissue.

The stock owner should guard against the bloating of his cattle by every precaution at his command. Clover or other green vegetation, if eaten when wet by dew or rain, seem to be especially liable to ferment before leaving the first stomach of the animal that has fed upon them. Eating excessive amounts of middlings or of corn meal will also cause bloating. It also occurs in cattle as a result of becoming choked. The principal cause, however, is overeating succulent green forage, such as clover, green corn, or cabbage.

To prevent bloating in cattle, the animals should be shifted, by easy stages, from dry or scanty feed to abundant and luxuriantly growing fodder. They may be allowed to feed from the good forage for only three-quarters of an hour on the first day they are given access to such grazing. A full hour may be allowed on the second day, and by continued slow steps and gradually lengthened stay in the tempting feed, the danger of loss from bloating will be largely overcome.

But in case the first evidence of a too protracted stay in the heavy growth of forage should be that the owner notices one of his animals with sides distended, and perhaps even lifted above the level of the backbone, he must act quickly. Removal of the gas from the paunch will quickly bring relief. If a veterinarian is within reach he should be summoned at once. If no surgeon is available, the owner should immediately attempt to bring relief to his animal.

Trocar and Method of Use.

Many cattle owners keep a trocar and canula constantly on hand and thoroughly understand its use. The trocar is a sharp pointed rod provided with a metallic sheath or canula which leaves the point of the trocar exposed. The spot to be selected for inserting the trocar is a point equally distant from the last rib, the hip bone, and the lateral bony projections from the spine in the region of the loins. Here a small cut about three-fourths of an inch long should be made through the skin with a small knife, and then the trocar with canula attached may be pushed through the cut into paunch. The trocar is then removed, allowing the gas to escape through the canula. The canula should be retained in place so long as any gas escapes through it. Sometimes several hours are necessary and the canula should be firmly tied in place. An attendant should remain near the animal, if possible so long as the canula is in the paunch.

Medicines that Relieve Bloating.

If the animal is not distressed by the bloating, and the swelling of the body is not great, or when the alarming conditions have been removed by the use of the trocar, it is best to resort to internal medicine to allay the formation of gas. Two ounces of aromatic spirits of ammonia in two quarts of cold water should be given every half hour, or half an ounce of chloride of lime dissolved in a pint of tepid water may be given every half hour until the pressure of the bloating has been removed. A dose of purgative medicine is usually beneficial after the bloating has disappeared. For this purpose one pound of Glauber's salts will usually prove effective.

Care should be used in the administration of fluid medicines. Take time and do not hold the cow's head too



Warranted to give satisfaction.

GOMBAULT'S CAUSTIC BALSAM

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.

As a HUMAN REMEDY for Rheumatism, Sprains, Sore Throat, etc., it is invaluable.

Every bottle of Caustic Balsam sold is warranted to give satisfaction. Price \$1.75 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars, testimonials, etc. Address:

THE LAWRENCE-WILLIAMS COMPANY, Cleveland, Ohio.

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

McPherson Farms Co., Howell, Mich.

THE HOLSTEINS

At Maple Avenue Stock Farm are under Government supervision. The entire herd have just been tuberculin tested and not one reactor. A good place to buy that bull you are looking for, and I have two very fine, richly bred, and splendid individuals ready for any amount of service. I want to answer any question you may ask about them.

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

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

615 lb. milk 26.97 lb. butter 7 days aver. for 2 nearest dams of 4 mo. 4 white bull calf. Odd dam 381 lb. butter 19021 lb. milk 10 mos. Also heifers bred to 23 lb. son Atkin's Maplecrest. M. L. McLaulin, Redford, Mich.

No more bull calves to offer until next fall. Place your order for one from next fall's crop. My herd is on the state and federal accredited herd list.
 A. F. LOOMIS, Owosso, Mich.

Holstein Bull dropped May 25-19, a beauty, 4 white, dam 21.44. Price \$100.00. A reg. Write for photo and breeding. J. Robt. Hicks, St. Johns, Mich.

"Winwood Herd"

REGISTERED
 Holstein - Friesian Cattle
 Sire in Service
 FLINT MAPLECREST BOY

His sire is Maplecrest Korndyke Hengerveld. His three nearest dams each over 30 lbs. of butter in 7 days. His dam and granddam both made over 123 lbs. of butter in one year. It is the yearly cow we are looking for to deliver the goods. Flint Maplecrest Boy's Dam is Gluck Vassar Bell, 80.57 lbs. of butter in 7 days and 221 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 12 months old. From A. R. O. dams and sired by Flint Maplecrest Boy, which we will sell at a dairy farmers price breeding considered. Just think of more cows to freshen which means more bull calves. Let us know your wants. We will make terms on approved notes.

JOHN H. WINN, Inc.
 Lock Box 249, Roscommon Mich.
 Reference Roscommon State Bank.

Registered Holstein Friesian Bull calves from 5 to 12 mo. old at \$75. each. 30 lb. Pontiac breeding. About evenly marked. B. E. Reavey, Akron, Mich.

For Sale: Bull calf born March 1st; well marked, dam has record of nearly 21 lbs. as three year old; sire Kingmaster Colantha Lad. Write for Pedigree and price. SCOTT'S HOLSTEIN FARM, 2212 Hollywood Ave., Toledo, Ohio.

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

REGISTERED heifer and bull calves, of the best breeding in Holsteins for sale. Special price on 2 heifers and bull. C. H. GIDDINGS, Gobleville, Mich.

JERSEY BULLS
 Ready for service FOR SALE
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BUTTER BRED JERSEY BULLS
 FOR SALE
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Great Hog Profits

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FOR HOGS
2¢ A GALLON

Hustles Heavy Hogs to Market

Cuts your feeding costs. Have bigger pigs, fatter hogs. Get them ready for market in far less time. You can do it. Prove at our risk that Milkoline is the surest farm money maker known.

Guaranteed Trial Offer We will ship you a barrel, or a barrel, Take 30 days—feed half to your hogs and poultry. If not absolutely satisfied return the unused part and we will refund every cent you paid us—no charge for the half you used.

Milkoline has a base of Pure Modified Buttermilk to which essential fats and acids are added. Milkoline comes in condensed form. Will keep indefinitely in any climate. Will not mold, sour or rot. Files will not come near it.

2c a Gallon For feeding mix one part Milkoline feed with your usual grain feeds. It helps keep hogs healthy, their appetites keen and makes more pork per bushel of grain. Stop buying buttermilk of uncertain quality. Use Milkoline and you will always be sure of uniform acidity, and at a cost of 2c a gallon or less when fed as directed. Many users say Milkoline saved them one-third on feed bills because it makes their hogs and poultry assimilate all their feed.

1400% Profit W. H. Graham, Middleton, Mo., writes that he got an extra \$420 worth of pork from \$30 worth of Milkoline in a sixty day feed. He made an actual test of this lot of hogs in comparison with another bunch. We could quote hundreds of testimonials, but the best proof is that we legally guarantee Milkoline to be satisfactory or refund your money (you are the judge) and refer you to S. W. Blvd. Bank of Kansas City, Mo., and R. G. Dunn & Co. MILKOLINE is just as good for Poultry as for Hogs.

Order from Nearest Dealer or Direct from this Ad. Send check or money order and ask for free booklet, "Hustles Heavy Hogs to Market."

5 Gal. at Creamery \$1.50 per gal. 12.50
10 " " " 1.35 per gal. 13.50
15 " " " 1.10 per gal. 16.50
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No charge for bags or barrels. Prices F. O. B. Nearest Dealer or Kansas City, Mo. 300 Creamery Bldg.

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For keeping flies and many other insects off animals. Used and endorsed since 1885 by leading dairymen. Cows give 25% to 35% more milk during fly season if sprayed with Shoo-Fly.

\$1.25 worth \$20 in milk and flesh on each cow in a single season. Excellent for galls. Allays itching. Aids in healing cuts and sores. Excellent for lice and mites in poultry houses.

Send \$1.25 for enough Shoo-Fly to protect 20 cows 2 weeks, also our 3-day gravity sprayer. Money back if not satisfactory. Name Express Office. Booklet FREE.

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Booklet Free
\$3 Package guaranteed to give satisfaction or money back. \$1 Package sufficient for ordinary cases.

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DEATH TO HEAVES! NEWTON'S

STANDARD REMEDY
PER AND INDIGESTION COMPOUND
Cures Heaves by correcting the cause—indigestion. Prevents Cough, Stagnation, etc. Best Conditioner and Worm Expeller. 27 years sale. Three large cans guaranteed to cure Heaves or money refunded. The lot of 24 cans often cures. \$1.15 per can (this includes 50¢ war tax) at dealers or prepaid by parcel post. Booklet free.

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MICHIGAN AGRICULTURAL COLLEGE offers complete veterinary course, open to high school graduates in preparation for this work.

For particulars write **R. P. LYMAN, Dean, East Lansing, Michigan.**

CATTLE.

THE REEKDALE HERD

offers for sale one Reg. Holstein Cow, due to freshen July 1st. She is four years old and a good straight back individual about half & half in color, weight about 1400 lbs. Her dam is a full sister to Bertusca Pauline 3d., the \$3000 cow and Flint Bertusca Pauline 33 lbs. butter 7 days, 1007 lbs. butter 305 ds. Her sire is a half brother to the two cows mentioned above. Would consider a real bull in exchange.

I will also sell yearling daughter of a 29 lb. bull and a 2 yr. daughter of a 25 lb. cow due to freshen Oct. 15, 1919.

ARTHUR C. REEK, Inlay City, Michigan.

Maple Lane R. of M. Jersey herd. Bull and heifer calves sired by a nephew of the new World's Champion, Sophie's Agnes. Also R. O. Red eggs and chicks.
IRVIN FOX, Allegan, Mich.

LILLIE Farmstead Jerseys. Young bulls ready for service from R. O. M. cows. A few bred heifers and cows.
COLON O. LILLIE, Coopersville, Mich.

For Sale Jersey Bull, Goldie Foxhall Lad No. 170446, Sire Fergus Foxhall No. 125649 Dam Goldie Sophie No. 32738, this bull is solid color, black tongue and switch, dropped Mar. 10th, 1918, an extra fine individual, good enough that I will ship him O. O. D. Also a few bull calves. Address **NEWMAN'S STOCK FARM, R. 1, Mariette, Mich.**

MICHIGAN QUALITY SALE

At Coldwater, Mich., June 25, 1919

Fifty-one head of pure-bred A. R. O. cattle, with records up to 28.46 lbs. as a three-year-old, and 22 lbs. as two-year-old cows that have taken grand championships at Central Wisconsin State Fair, and with association records the herd averaged 14,180 lbs. of milk and 472 lbs. of fat in 1915. One of the herd was grand champion milk and fat cow of Branch county last year, and one is the champion cow for the first six months this year. They are descendants of the following noted families:

King Segis; King of the Pontiacs; Lyons; Hengerveldt; Mutual Friend De Kol; Netherlands Burke; Pieterje and Calamity.

38 Cows and 13 Bulls—3 Ready for Service

All grandsons of the \$50,000 sire, King Segis Pontiac Alcartra. One from a 28.46-pound three-year-old heifer; a fine individual, his dam milked 99.4 pounds her best day, and averaged 90.5 pounds for seven days.

All animals guaranteed free from tuberculosis and contagious abortion. Sale will be held at 590 North Chicago street, 15 minutes' walk from the station, at 1:00 o'clock sharp.

Col W. H. Krause of Thorp, Wis. Auctioneer

E. E. Butters, Manager and Proprietor

The Wildwood Jersey Farm.

Bulls for sale by Majesty's Oxford Fox 13234 and Eminent Lady's Majesty 15084, and out of R. of M. Majesty dams. **ALVIN BALDEN, Onapo, Mich.**

For Sale Registered Jersey bulls ready for service and bull calves.
SMITH & PARKER, R. 1, Howell, Mich.

HEREFORDS

8 bulls from 7 to 10 months old, Prince Donald and Farmer breeding for sale.

ALLEN BROS., Paw Paw, Mich.

Harwood's White Faces

KEEP ON 508019
A Ton Bull Heads the Herd

The beef cattle of the day. Only 2 yearling bulls left. My 1918 crop of bulls ready for sale. Will spare a few females. You can not make a better investment. I wish to thank my customers for past favors.

JAY HARWOOD, Ionia, Mich.

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

Herefords Bob Fairfax 494027 at head of herd. Stock for sale, either sex, polled or horned, any age. Priced right. **KARL C. MCARTY, Sec'y. H. B. Ass'n. Bad Axe, Mich.**

BIDWELL SHORTHORNS

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

BIDWELL STOCK FARM
Box B, Tecumseh, Mich.

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

Richland Stock Farm
SHORTHORNS
HOME OF THE MICH. CHAMPIONS

We offer for sale a few good dual purpose cows with calves at foot. Also two three year old bulls suitable for range purposes. We invite inspection.

C. H. PRESCOTT & SONS,

Office at Tawas City, Mich. Herds at Prescott, Mich.

Shorthorns Scotch and Scotch Topped cows and heifers, priced right. Come and see them or write **W. B. McQUILLAN, R. 7, Howell, Mich.**

Milking Shorthorns Clay bred young bulls 3 to 10 months old.
DAVIDSON & HALL, Tecumseh, Mich.

Rosemary Farms, Williamston, Mich. young bulls ready for service. Shorthorns bred for milk & beef. Herd estab. by Prof. C. H. Burgess, Mich. Agri. College.

For Sale Shorthorns of Quality Scotch and Scotch Topped descendants of Archers Hope, Avondale, Maxwellton Sulton and White Hall Sulton by the Oscola Co. Shorthorn Breeders Ass. **JOHN SCHMIDT, Sec. Reed City, Mich.**

Shorthorns New list, 27 bulls; 28 females. Feb. list all sold. Central Mich. Shorthorn Breeders' Assn., Oscar Skinner, Sec'y., Gowen, Mich.

The Kent Co. Shorthorn Breeders have both males and females for sale. Ask about them.
H. L. LEONARD Sec., Caledonia, Mich.

Milking O. I. C. swine. Bulls for sale 1 mo. to 1 year old.
E. H. KURTZ, Mason, Mich.

For Sale: Registered Shorthorn bull calf 6 months old, well grown & thrifty. Sire, Sultan; Dam Sanspareil, families. John T. Sheridan, R. 1, Jensen, Mich.

For Sale Two Shorthorn Bulls, one red and one roan. Ready for service.
LUD. HASTINGS, Napoleon, Michigan.

HOGS

Attention Breeders and Farmers Now is the time to buy that Duroc Boar for fall service. We have some Corkers. March pigs will weigh 100 lbs. July 1st. Inspection Solicited.
RUSH BROS., Oakwood Farm, Romeo, Michigan.

Registered Berkshire Boars: ready for service. A few gilts and sows bred for May and June farrow. Also spring pigs. **CHASE STOCK FARM, Mariette, Mich.**

Duroc Opportunity

What would the earning capacity of a Brookwater Boar be in your herd? A mid-west breeder states that the Brookwater boar he used added from \$75 to \$100 to every gilt bred to him. It paid this man to use one of our boars it will pay you.

We have several that we are offering at prices which appeal to the small breeder who must of necessity be a conservative buyer. We have a few that are good enough to be used in high class herds at prices in keeping with their individuality and breeding. Money invested in a good herd boar very speedily increases the value not only of what you sell but what you keep. Send for price list or better, visit the farm.

BROOKWATER FARM, Ann Arbor, Mich.
HERBERT W. MUMFORD, owner.
J. BRUCE HENDERSON, Manager.

DUROC JERSEYS

Fall pigs either sex also spring pigs pairs not akin. Sired by the Grand Champion and Junior Champion boars.
F. J. DRODT, R. 1, Monroe, Mich.

REGISTERED DUROC BOARS—We have a choice lot of spring boars, sired by Michigan Cherry Col. No. 113479, Top Cherry King J. No. 102639, and Col. Defender 24th No. 125745. Make your selection at weaning time and raise according to your own ideas. Write for pedigrees. The Jennings Farms, R. 1, Bailey, Mich.

SEVERAL GOOD

Duroc sows bred to Orion's Fancy King. Boar pigs ready for service.
NEWTON BARNHART, St. Johns, Mich.

DUROC--JERSEYS

E. D. HEYDENBERG, Wayland, Mich.

DUROC JERSEYS

Nothing but spring boar pigs for sale.
CAREY U. EDMUNDS, Hastings, Michigan.

DUROC gilts bred for August and September farrow. Sired by Orion Cherry King Col. 2nd. Write for description and prices. **W. C. TAYLOR, Milan, Mich.**

For the Boys \$10 for a Duroc Sow Pig. M. A. C. Brookwater breeding. Registration papers free. **D. W. Sutherland, Gd. Ledge, Mich.**

8734 Hampshires recorded from Jan. 1 to Apr. 1 '19. Did you get one? Boar pigs only for sale now. **JOHN W. SNYDER, R. 1, St. Johns, Mich.**

Breed The Best THE WORLD NEEDS LARGE FAT HOGS

Why lose money breeding and feeding scrub hogs? Two of our O. I. C. Hogs Weighed 2806 Pounds. We are the most extensive breeders and shippers of pure bred hogs in the world. Write today for the true story of the real O. I. C. Hogs. All foreign shipments **U. S. Government Inspected**

We have bred the O. I. C. Hogs since 1863 and have never lost one with cholera or any other contagious disease.

WRITE TODAY—FOR FREE BOOK
"The Hog from Birth to Sale"

THE L. B. SILVER CO.
196 Heights Temple Bldg.
CLEVELAND, OHIO

THE WORLD'S CHAMPION

big type O. I. C's. Stock of all ages for sale. Herd headed by Colossal Red, the World's Champion O. I. C. boar assisted by O. C. Schoolmaster, Grand Champion boar of Michigan, New York and Tennessee state fairs. Also, O. C. Giant Buster, undefeated Senior boar pig wherever shown and Grand Champion of Oklahoma state fair. Get our catalogue of Orandell's prize hogs, Cass City, Michigan.

Shadowland Farm

O. I. C.'s

Bred Gilts 200 to 300 lbs. from prize winning stock. A few fall yearlings and 2 yr. old sows, big type, growthy boars of all ages, guaranteed as breeders. Everything shipped C. O. D. Express paid and registered in buyer's name. **J. CARL JEWETT, Mason, Mich.**

O. I. C.'s. Big type serviceable boars and gilts bred for July and August farrow.
G. P. Andrews, Danville, Mich.

O. I. C. For Sale—Spring Pig's
H. W. MANN, DANVILLE, MICHIGAN.

O. I. C. gilts bred for summer farrow and spring pigs. Any of them good enough to ship. C. O. D.
F. C. BURGESS, R. 3, Mason, Mich.

O. I. C's 2 Choice Yearlings Boars and gilts bred for May and June farrow. Also spring pigs. **CHASE STOCK FARM, Mariette, Mich.**

O. I. C's One very good yearling boar, and this spring pigs to offer, registered free. 1/4 mile west of Depot. Citizens Phone 124.
OTTO B. SCHULZE, Nashville, Mich.

OTTO B. SCHULZE, Nashville, 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 six months old. Write for my plan—"Here Money from Hogs."

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

For 25 Years We have been breeding Big Type Poland China hogs. Our new herd boar "Michigan Buster" is a mighty good son of the great "Giant Buster" dam "Mow's Miss Queen 2." Some breeding Litter of 14. We are offering some sows bred for fall farrow. **J. C. BUTLER, Portland, Mich.**

Big Type Poland Chinas. A litter by Gerstdale Jones (Quarter); one by Gerstdale King (Gerst). A Big Bob sow hooked for service to The Clansman. Pigs by Mammoth Ben, herd boar, unexcelled. Mammoth Ben at 12 mos. weighed 450 lbs. Nothing for sale. Visitors welcome.
WESLEY HILL, R. 6, Ionia, Mich.

LARGEST Type P. C. in Mich. Nothing at present. Spring pigs too young to ship. Have 60 the best I ever raised which I will offer later. Come and see two greatest boars in state: L's Big Orange 21847 and Lord Clansman 39097. **W. E. LIVINGSTON, Parma, Mich.**

THE OLD FASHIONED SPOTTED CHINA HOGS Gilts due to farrow JUNE OR JULY—\$100 up. Spring pigs \$25 weaning time.
J. W. WILLIAMS, North Adams, Mich.

L. S. P. C. Boars all sold. A few nice gilts bred for fall farrow.
H. O. SWARTZ, Schoolcraft, Michigan.

Big Type Poland Chinas with quality. Bred for pigs. Ask any questions about my breeders. **G. A. BAUMGARDNER, R. 2, Middleville, Michigan.**

Big Type Poland-Chinas pigs, sired by C. A. King Joe 25831, by King Joe 25227, Monster Big Bob 37225, by Luken's Big Bob 23777; Buster Half Ton 29825, by Great Big Half Ton 261243. Out of sows, whose pedigree, individuality and quality are of equal merit as my herd boars. Can furnish pairs and trios, not akin.
C. A. BOONE, Blanchard, Mich.

MICH. Champion herd of Big Type P. C. Nothing for sale but fall pigs, orders booked for spring pigs.
E. R. LEONARD, St. Louis, Mich.

Big Type P. C. Boars all sold. Nothing now until fall. B I thank my customers for their patronage. Spring pigs coming fine. **C. E. GARNANT, Eaton Rapids, Mich.**

Large Type P. C. Nothing for sale now. Will be in market with better than ever this fall. If herd stuff counts.
W. J. HAGELSHAW, Augusta, Mich.

Big Type P. C. gilts, bred for August and September farrow.
A. A. WOOD & SON, Saline, Mich.

Big Type P. C. Choice bred sows from Iowa's greatest Big herds, the big bone prolific kind with size and quality.
E. J. MATHEWSON, Burr Oak, Mich.

Big Type Poland's all sold out, nothing for sale at present. Booking orders for spring pigs. Thanking my customers. **L. L. Chamberlain, Marcellus, Mich.**

Mammoth Poland Chinas all sold. General Jones No. 317248, son of Gerstdale Jones heads our herd. Clyde Weaver, Ceresco, Mich.

Big Type P. C. Will have better males than ever for fall trade, gilts in season.
JOHN D. WILEY, Schoolcraft, Mich.

HORSES
Pure Bred Belgian Draft Horses

We have some extra good Belgian Stallions for sale, coming three and four years old. They are heavy, of good conformation and sound. You can see their sires and dams. They are raised in Michigan and acclimated. We have no agents on the road for which you or we would have to pay. You cannot buy them any better nor cheaper in the world. Our studs and mares carry the best blood Belgium has produced. We prove this by their pedigrees. We invite you to see our stock before buying. You can see them any day of the week Except Sunday. Write for particulars and catalog to the **OWOSSO SUGAR COMPANY, Prairie Farm, Alicia, Mich.**

Percherons, Holsteins, Angus, Shropshires, Durocs
DORR D. BUELL, Elmira, Michigan.

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

SHEEP
TO THE KIDS

Over 300 have written me about the sheep I am giving away. I would like to send one to each of you but two is my limit. Three disinterested judges are picking the winners. If you are not one of the lucky kids, why not save your money and buy one next December. I will contract to buy the produce back at a splendid price.

KOPE-KON FARMS, S. L. Wing, Proprietor Coldwater, Michigan

BUY A SHEEP.

Wait a minute, buy Hampshires. The American Hampshire Sheep Association wants to send you a dandy little booklet with list of breeders. Some near you. Write **COMFORT A. TYLER, Secretary, 22 Woodland Ave., Detroit, Mich.**

For Shropshire Yearling Rams write or call on **ARMSTRONG BROS., R. 3, Fowlerville, Mich.**

Shropshires Am offering 16 yearling rams and 8 yearling ewes of Senator Bibby breeding.
C. J. THOMPSON, Rockford, Mich.

FOR SALE—34 Ewes and 38 Lambs. Inquire of **H. E. PETERS, South Lyon, Michigan**

LATEST MARKET REPORTS

SECOND EDITION.

The markets in this edition were revised and corrected on Thursday afternoon, June 19.

WHEAT.

The last report of the Bureau of Crop Estimates places the prospective yield of winter wheat at 893,000,000 bushels for the United States, and of spring wheat at 343,000,000 bushels, or total of 1,236,000,000 bushels. The winter wheat crop is eighteen per cent larger than the average for the past ten years. There is a common opinion that wheat prices will be down to the minimum guaranteed by the government due to this bumper crop. As a result the market is inactive for the grain and the important wheat products. Users are getting on with as little flour and feed as possible. Prices are unchanged on our local market from last week. A year ago No. 2 red was quoted here at \$2.17 per bushel. Present values are:

No. 2 red	\$2.45
No. 2 mixed	2.43
No. 2 white	2.43

CORN.

The corn situation seems to be favorable to firm prices. Cash corn is scarce with a strong active demand prevailing in the important markets. While weather has taken a more favorable turn in the southwestern portion of the country, complaints continue to come forward from the northwestern districts, where insects and damage from storms are reported. At Chicago prices on Monday reached the highest point for the season. Persistent buying on domestic account furnished the energy for this advance. Hog values going to a considerably higher level stimulated further confidence on the part of the bulls. The American visible shows a decrease of 784,000 bushels. One year ago No. 3 corn sold on the local market at \$1.50 per bushel. Present Detroit quotations are:

No. 3	\$1.81
No. 3 yellow	1.83
No. 4 yellow	1.81
No. 5 yellow	1.78
No. 3 white	1.84

At Chicago No. 3 yellow advanced to \$1.80½@1.83; July corn \$1.79½; September \$1.72¾.

OATS.

There is much complaint in the states along the Ohio valley about the damage to the oat crop. The fields are turning yellow and in many places the extent of the loss will be considerable. Dealers generally are on the buying side of the market, and prices are advancing. The new grades fixed by the government are now in effect, and the old standard grade will no longer be quoted. This grade corresponds closely to the government's No. 2 grade. The visible supply for the country decreased 1,939,000 bushels for the past week. One year ago standard oats sold at 80c per bushel. Quotations on the local market are:

No. 2 white	74
No. 3 white	73½
No. 4 white	72½

RYE.

There has been some demand from abroad for this grain which has aided in maintaining prices. At Detroit No. 2 cash is quoted at \$1.48 per bushel.

BARLEY.

In the majority of the barley growing states the grain is reported in excellent condition. In Iowa, South Dakota and Kansas some unfavorable reports due to rust and excessive rain are coming in. At Detroit prices remain unchanged at \$2.30@2.40 per cwt for cash No. 3.

BEANS.

Business has been rather quiet in bean circles the past week. The tone of the market has been generally steady with very little change in prices. In New York choice Michigan pea beans are quoted at \$7.75@8; mediums \$7.75@8; red kidney \$12.75@13. The Chicago market is inactive with prices easy. Choice to fancy hand-picked pea beans are quoted there at \$8@8.25 and red kidneys at \$11@11.50. The Detroit trade is slow and easy with immediate and prompt shipment

quoted on the exchange at \$7.25 per cwt. It is generally predicted that a slightly smaller acreage of beans will be planted in Michigan than last year, although failure to get in the proposed amount of oats may result in some of this land being used for beans. Some frost damage is reported to the Colorado crop.

HAY.

The supply of timothy hay was small and the demand active. Clover hay is quiet. Local quotations are: No. 1 timothy \$38.50@39; standard timothy \$37.50@39; No. 2 timothy \$36.50@37; No. 1 mixed \$35.50@36; No. 1 clover \$32@33.

Pittsburgh.—At Pittsburgh receipts continue inadequate to supply the demand, the market there being almost bare of hay. Prices have advanced since last week as follows: No. 1 timothy \$42@42.50; No. 1 light mixed at \$40@41; No. 1 clover mixed \$37@38; No. 1 clover \$35.50@36.

SEEDS.

Very little trading is reported in the seed division, with prices unchanged as follows: Prime red clover at \$27; October \$22.50; timothy \$5.60.

POTATOES.

There appears to be a fairly liberal amount of old potatoes on the markets with prices quoted as lower. At Detroit a poor demand and weak market is noted and No. 1 round whites

are selling around \$2@2.25 per 150-lb. sack for Michigan stock. The same grade from this state sells in Cleveland at \$3@3.25; in Pittsburgh \$2@2.50; in Buffalo \$1.25@1.75 per cwt; in Indianapolis \$1.75; in Cincinnati at \$2; Chicago \$1.40@1.50. It is predicted that about a normal acreage of potatoes will be planted in Michigan. In Minnesota planting is completed and the early crop is looking well.

FEEDS.

Prices have changed but little as follows: Bran \$43; standard middlings \$43.50; fine middlings \$53@55; coarse cornmeal \$66.50@67.50; cracked corn \$73; corn and oat chop \$55@57 per ton in 100-lb. sacks to jobbers.

CHEESE.

An easier tone has taken hold of the cheese market east and west, with prices showing a slight falling off. Production has been liberal and export buying as well as the domestic trade is weaker, with the demand insufficient to absorb all offerings. Michigan flats are bringing 30c from jobbers in Detroit and single daisies 30½c. At Chicago young Americas are quoted at 30c; daisies 29½c, and Cheddars 29c. The Philadelphia trade quotes a lower market, with full milk at 31½@31¾c.

BUTTER.

Although stocks of butter in storage have accumulated rapidly, and the re-

ceipts to date are showing little falling off, the belief is that the flush of the manufacturing season has been reached. Generally speaking, trading is good and the demand is such as to keep current receipts for consumption fairly well cleaned up. At Detroit a moderate business was done early this week, with fresh creameries quoted at 49½@50½c. The Chicago trade is unsettled with creamery stock jobbing at 46@51½c. An unsettled market is also reported in New York, where prices range from 50½@53½c for creamery grades. Western creamery extras bring 53@53½c in Philadelphia.

EGGS.

A steady feeling obtains in egg markets with prices generally quoted above those prevailing last week. Receipts are falling off although the totals are considerably above those of 1918. On the Detroit market extra firsts in new cases are jobbing at 42c; fresh firsts 40c; candled storage packed in new cases 43c. At Chicago firsts are quoted at 39½@40½c; ordinary firsts 38@39c; storage packed firsts and extras at 42@43c. Nearby western stock brings from 48@62c in New York where the market has been somewhat irregular. A firm trade is reported in Philadelphia with western stock bringing \$13.20@13.80 per case.

WOOL.

With the government auctions closed for this season, the wool markets of the country have opened under conditions similar to those prevailing before the war. A large volume of business has been done and prices are being maintained on a steady basis. An exceptionally good demand prevails for new domestic fleece wools. Medium grades in Ohio and Michigan have sold recently at 60@65c. Fine delaines were quoted in Philadelphia and Boston, June 16 at 69@73c. Sales of colonial wools at Bradford, England were finished with prices being well sustained. Dealers anticipate an outlet for faulty and inferior wools in trade with the central empires as soon as war embargoes are removed.

SMALL FRUITS.

Michigan strawberries are now coming to market freely, and the quality is generally good. The trade is active and firm. At Detroit 24-qt. cases are quoted at \$5.

GRAND RAPIDS.

Farmers in Kent and adjoining counties began cutting clover and alfalfa last week. They report the crop as larger than last year. The stand of timothy is better in some sections and lighter in others. The season on the whole has been favorable to the hay crop in this section of the state. Potatoes sold at 60c per bushel Saturday on the city market, a 40c drop from the week's opening. Hot weather has forced the strawberry crop which is 90 per cent full. Saturday the price was \$1.50@2.50 per 16-quart crate a drop of \$3 per crate during the week. Farmers still find hay to sell but the price has dropped to \$29 per ton, on the city market. Bean jobbers still pay growers \$6 per cwt. They report acreage so far planted is less than a year ago. Planting is still in progress.

FEDERAL CROP REPORT.

The estimated yields indicated by the condition of crops on June 1, 1919, and final yields in preceding years for comparison, follow:

Winter wht.	893,000,000	555,000,000
Spring wht.	343,000,000	236,000,000
All wheat	1,236,000,000	791,000,000
Oats	1,446,000,000	1,331,000,000
Barley	232,000,000	199,000,000
Rye	107,000,000	50,000,000
Apples	166,000,000	199,000,000
Peaches	50,300,000	48,100,000
Hay, tons	116,000,000	96,900,000

BRAND LEAVES BUREAU OF MARKETS.

Charles J. Brand, chief of the Bureau of Markets, United States Department of Agriculture, and one of the best known men in the employ of the government, has resigned his position and will become general manager of the American Fruit Growers, Inc., the new \$100,000,000 concern which has been buying up apple orchards and orange groves all over the country for the past three weeks.

Live Stock Market Service

Reports for Thursday, June 19th

BUFFALO.

On this market today pigs sold at \$20; and top hogs \$21.50. Calves were up to \$19.50; yearlings \$15.50 and lambs \$18@19.

DETROIT

Cattle.

Receipts 1,835. Canners steady; all other grades 25@35c lower than last week's close. Best heavy steers \$13.50@14.00. Best handy wt bu steers 12.50@13.00. Mixed steers and heifers 11.00@12.00. Handy light butchers 9.50@10.50. Light butchers 8.50@9.00. Best cows 10.00. Butcher cows 8.00@9.00. Cutters 7.00@7.50. Canners 6.50@6.75. Best heavy bulls 10.00. Bologna bulls 8.00@9.00. Stock bulls 7.50@8.00. Feeders 10.00@11.00. Stockers 8.00@9.00. Milkers and springers \$65@125.

Veal Calves.

Receipts 1,974. Market steady. Best \$18.00@18.50. Culls 7.00@15.00.

Sheep and Lambs.

Receipts 843. Market steady. Quotations are for spring lambs. Best dry-fed lambs \$18.25. Fair lambs 16.00@16.50. Light to common 14.00@16.00. Yearlings 14.00@14.50. Fair to good sheep 7.00@8.00. Culls 4.00@6.00.

Hogs.

Receipts 656. Pigs 25c lower; mixed hogs 75c lower. Pigs \$19.25. Mixed 20.25.

CHICAGO.

Hogs.

Estimated receipts today are 51,000; holdover 10,175. Market opened about 50c lower but weakening and mostly 50@75c lower than yesterday's general trade; early top \$20.40. Heavy 250 lbs up, medium, good and choice at \$19.65@20.15; medium 200 to 250 lbs, medium, good and choice \$19.50@20.20; light 150 to 200 lbs, common, medium, good and choice \$19.40@20.15; light lights 130 to 150 lbs, common, medium, good and choice at \$18@19.75; heavy packing sows 250 lbs up, smooth \$19@19.50; packing sows 200 lbs up, rough \$18.75@19; pigs 130 lbs down, medium, good and choice \$17@18.

Cattle.

Estimated receipts today are 12,000; beef steers and butcher stock steady

to strong; calves and feeders steady. Beef steers, medium and heavy weight 1100 lbs up, choice and prime \$14.85@16.35; do medium and good \$12.25@15; do common \$10.75@12.35; light weight 1100 lbs down, good and choice \$13@14.75; do common and medium \$10@13.15; butcher cattle, heifers, common, medium, good and choice at \$7.75@13; cows, common, medium, good and choice \$7.50@12.35; bulls, bologna and beef \$8.75@12; canners and cutters, cows and heifers \$6.25@7.50; do canner steers \$7.75@10; veal calves, light and handyweight, medium, good and choice \$16.50@18; feeder steers, common, medium, good and choice \$9.50@12.75; stocker steers, common, medium, good and choice \$8@12; stocker cows and heifers, common, medium, good and choice \$7.50@9; do calves, common, medium, good and choice \$8.25@12.

Sheep and Lambs.

Estimated receipts today are 20,000; market slow. Killing classes 25@50c lower; top lambs \$18.50. Lambs 84 lbs down, medium, good, choice and prime \$16@18.50; do 85 lbs up, medium, good, choice and prime \$9@15.50; do culls and common \$12.50@15.75; spring lambs, medium, good, choice and prime \$7.50@9; yearling wethers, medium, good and choice \$7.50@9; ewes, cull and common \$3@7.25; breeding ewes, full mouths to yearlings \$8@13.

BUFFALO.

Wednesday, June 18, 1919.

Cattle.

Receipts five cars; 25@50c higher; prime heavy steers \$14.50@15.50; best shipping steers \$13.50@14.50; medium shipping steers \$12.50@13.25; best native yearlings, 950 to 1000 lbs \$13@13.75; light native yearlings, good quality \$13@14; best handy steers \$12@13; fair to good kind \$11.50@12; handy steers and heifers, mixed \$12@12.50; western heifers \$11.50@12.50; state heifers \$9@10; best fat cows \$11.50@12.25; butchering cows \$8.50@9.50; cutters \$7@8.50; canners \$5@6; fancy bulls \$10.50@11; butchering bulls at \$9.50@10.50; common bulls \$7.50@8.50; best feeders 900 to 1000 lbs \$10.50@11.50; medium feeders \$9.50@10; stockers \$9@10; light common \$7.50@8; best milkers and springers \$10@15; mediums \$75@90.

Hogs.

Receipts three cars; lower; heavy and yorkers \$21.75@21.90; pigs \$20.

Sheep and Lambs.

Receipts three cars; slow; top lambs \$17@19; yearlings \$14@16; wethers \$10.50@11.50; ewes \$9@9.50.

Calves.

Receipts 1000; steady at \$7@10.

NEW YORK PRODUCE MARKET.

Butter.—The conditions which have prevailed this week are very similar to those of last week. Receipts have been very high, approximating one hundred thousand tubs and the demand has been irregular. At the close of last week, buyers were active and the price advanced about two and one-half cents in the last two days of the week. On Monday, practically all buying activity ceased, with the result that the price declined one and a quarter cents. On Tuesday and Wednesday there were declines of three-quarters of a cent on each day. On Thursday, while the quotations were not changed, trade became fairly active and it was quite apparent before the close of the day that an advance would take place on Friday. Speculative operators became busy on Friday, and purchased about 1,200 tubs of butter on the Exchange at an advance on one and a half cents over the prices which prevailed Thursday. As soon as the speculators became active, local buyers thought that it was time for them to stock up, hence, on that day large quantities of butter changed hands. It is fully expected that the advance in price is only temporary and we will see a decline similar to those which have taken place during the last two weeks. Unsalted butter is selling quite freely, but the majority of purchases is going in the freezers. At the close on Friday, quotations were as follows: Extras 53c; higher scoring than extras 53½c; firsts 51c; 52½c; seconds 48½c; 50½c. The price differential of unsalted butter is about 2½ cents above quotations for salted butter.

Cheese.—Receipts and reports indicate that the production of cheese is greatly on the increase. Speculative demand has not been sufficient to care for the receipts and the result is a decline in price. There has been no marked break in the market, but the decline has been gradual. During the extremely hot weather of last week, the quality of cheese received was not up to the standard but because of the cool weather which has prevailed of late, the quality of the cheese being received now is better. However, there are large quantities of inferior cheese in local stores. There has been a considerable difficulty in securing storage space for cheese which has resulted in a number of cars being held at the dock until refrigeration could be secured. Established quotations are as follows: Average run 30½c; specials 31c; 31½c; common to fair 28c to 30c.

Eggs.—Receipts of eggs have fallen off considerably of late and the quotation on the various grades of eggs have changed practically none during the week. Storage space has been scarce but receivers have availed themselves of space in local breweries so that the surplus stock is well cared for. Holdings have increased considerably during the week but not enough to cause any insecure feeling. The quality of eggs in general is running poorer and buyers are becoming more critical. Established quotations are as follows: Firsts 43½c; extra firsts 45½c; 47c; extras 49c to 49½c.

Poultry.—The poultry market has been very weak throughout the week. This was brought about very largely because of a boycott among purchasers of poultry in the Bronx. The total decline in price during the week has been about four cents per pound on practically all classes of poultry.

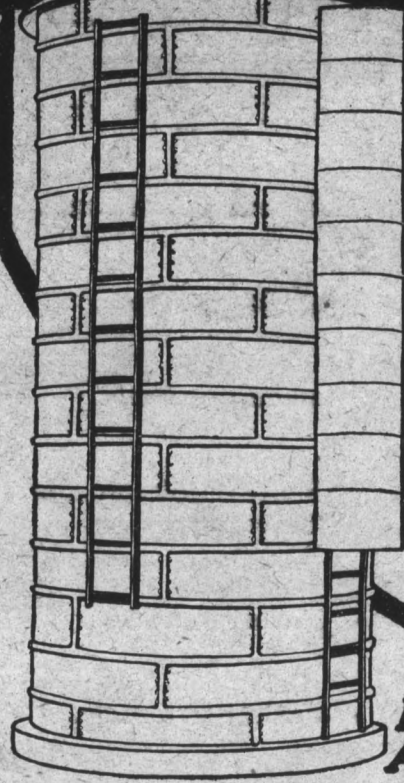
VETERINARY.

Hole in Side of Teat.—Have a young cow three years old that freshened recently and has a tiny hole in side of teat. When milked, milk flows from two openings. K. W. G., Syms, Mich.—A case of this kind should be treated by a veterinarian when cow is dry.

Bruised Knee.—I have a four-month-old colt that has had a soft bunch on knee for the past six weeks. A few days ago he began to show some lameness. What do you suggest in line of treatment for ailment? J. S., Scottville, Mich.—Apply equal parts spirits of camphor and tincture iodine once or twice daily. Are you sure he does not bruise knee on manger?

Opacity of Cornea.—I have a nine-year-old mare that seems to be in perfect health, but both eyes are covered with a sort of bluish veil which clouds vision. I can see pupil of eye if light is good. I wish you would tell me what can be done for her eyes. S. H., Kalamazoo, Mich.—Doubtless she is near-sighted and by giving her 20 grs. of potassium iodide and 2 drs. of Fowler's solution in feed or in drinking water two or three times a day her eyes may perhaps clear up some. It is well to keep in mind that a bright light always irritate a sore eye.

A Special Money-Saving Offer on Metal Silos



WE have a big, special money-saving proposition. It is for the first 500 far-sighted men who want the best kind of silo at lowest possible cost—a silo that insures perfect, unspoiled silage from top to bottom and lasts for a lifetime. Write for it today.

ROSS In-De-Str-Uct-O Metal Silos

Acid proof, rust proof, and wind proof. Air tight, rain proof, and fire proof. Selected materials, best grade construction—made to withstand any climate and every change in weather. Built entirely of cold-rolled metal, treated to resist the acetic and lactic acids found in silage.

You erect the ROSS yourself—in your spare time. No experience necessary. No high priced labor or expensive scaffold needed. Any man who can tighten a nut on a bolt can have a perfect, air-tight, economical, and long lasting silo that will meet his every need.

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Agents—Some territory still open.

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Get These Free Books

A postcard brings these four valuable booklets free. Filled with facts regarding silos. A big help to the man interested in silage and silo construction. Write us today



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Write to H. CHRYSTAL, Selling Representative, 909 Ford Building, Detroit,
for sample, literature and particulars. Who is your dealer?

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Buy a late model 1919 Galloway Separator on this special limited sale and save enough to buy other implements you need. Note these new low prices below—good only until July 15th. Buy your Galloway Separator now and take advantage of this great cut price offer. Remember, this sale applies to all the four good sizes on the famous Galloway Sanitary Separator that is unsurpassed for close skimming, easy running, easy washing, durability, simplicity, and all-round efficiency.

Note These Reduced Prices	
Old 1919 Catalog Prices	Good only until July 15
No. 4, \$48.00	New Victory Price \$46.90
No. 7, 55.00	New Victory Price 51.80
No. 9, 61.00	New Victory Price 56.90
No. 11, 72.75	New Victory Price 65.75

Over 300,000 satisfied users. Separators shipped from points near you to save you freight. Write today—order direct from this ad.
Wm. Galloway Co. Box 183 Waterloo, Iowa

Only \$2 DOWN ONE YEAR TO PAY

\$38 Buys the New Butterfly Jr. No. 2. Light running, easy cleaning, close skimming, durable. EASY TO CLEAN

NEW BUTTERFLY SEPARATORS are guaranteed a life-time against defects in material and workmanship. Made also in four larger sizes all sold on 30 Days' FREE TRIAL and on a plan whereby they earn their own cost and more by what they save. Postal brings Free Catalog Folder. Buy from the manufacturer and save money. (8) Albaugh-Dover Co. 21-55 Marshall St. Chicago

CULOTTA & JULL Eastern Market, Detroit, Mich.

Headquarters for fancy fruits and produce. We make a specialty of berries, cherries, peaches, pears, asparagus, celery, etc., and need your shipments to supply our trade. We want your shipments of eggs, veal and poultry. We handle only on commission and give you the benefit of our market, large or small shipments have our every care and attention. Reference Peninsula State Bank.

Mr. POULTRY FARMER:

We make a specialty of White Henner Eggs and have created a profitable market for your eggs the year around. We pay the highest premium for your Henner Whites—We remit same day shipments arrive. Ship Often—Ship by Express

Remember! We guarantee you satisfaction with every shipment.

HAY Ship To The Old Reliable House Daniel McCaffrey's Sons, 623-625 Wabash Bldg., Pittsburgh Pa.

SPECIAL FEED SALE

If you want big profits, buy cull beans. Over 22% protein and all good feed. For hogs, sheep, cattle and milch cows. Our special price is \$90 ton delivered your station, sacks included. Why feed corn at \$30 ton when you can get a better feed at \$40 ton? Order today before supplies are exhausted and prices advance.

PORT HURON STORAGE & BEAN CO. Port Huron, Michigan.

INSIDE TYRES Inner Armor for Auto Tires. Double mileage, prevent blowouts and punctures. Easily applied in any tire. Used over and over in several tire-thousands sold. Details free. Agents wanted. American Accessories Co., Dept. 712 Cincinnati, O.

Attention Small Farmers! A good married man that has had experience and is willing to work should get in touch with Michigan Farm, Pavilion, Mich. Stock and Grain farm, good wages, environment and good working conditions.

Farms and Farm Lands For Sale

FOR SALE 160 acre farm, 3 miles East Milan. Rich Soil, running water. 20 acres heavy timber, 10 room brick house, brick horse barn, 3 other good barns, granary, corn crib, other out buildings. 30 acres fine wheat. Hay, oats, corn, potatoes. All goes for \$14,000 if taken soon. Owner, Gustav Seleska, B. F. D-5 MILAN, MICHIGAN.

362 Acres \$8400; with 34 Head Holstein Cattle and

Good farm team, harness, implements and tools, short walk school, handy RR town, milk station, etc. About 200 acres big crop tillage, 15-cow wire-fenced pasture, much wood, timber, fruit. 7-room house, big painted basement barn, running water house, barns. Distant owner's other business requires quick sale, hence low price \$8400, part cash. Details page 35 Catalog Bargains 19 States, copy free. STROUT FARM AGENCY 514-B Ford Bldg., Detroit.

We Have For Sale the following lands and stock. 1200 acres of fine unimproved lands, well located, easy terms. 150 acres situated 5 miles from Gladwin, on daily mail route, close to school, all fenced with woven wire, 20 acres under fine state of cultivation, 6 acres in fruit, 70 acres more of same tract brushed logged and burned; Sheep ranch of 310 acres, all fenced, living water, 70 acres of this ranch cleared, 30 acres of which is under fine state of cultivation with fruit orchard, House 26' x 28'. Sheep sheds and Barn 64x80. Tool house 16x32. 170 Sheep, 110 this seasons Lambs. We have 3 fine Stock Ranches, well grassed, well fenced, living water. McClure Stevens Land Co., Gladwin, Michigan.

WANTED 5 to 40 acres of high, well drained, gravel loam, sloping to south or west, close to shipping point, not more than 50 miles from Detroit. Will deal with owners only. N. Grant Currie, 153 Harrison Ave., Detroit, Mich.

FOR SALE—1600 acres of good hardwood cut-over land in Alcona Co., Mich., suitable for farm, ranch or colonization. Price \$9 per acre, Terms. O. C. PETERSON, 30 N. LA SALLE ST., CHICAGO, ILLINOIS.

Rich Michigan Farms. Low prices. Easy terms. STAFFELD BROTHERS, 15 Merrill Building, Saginaw, Michigan

WANTED To hear from owner of farm or unimproved land for sale. O. K. HAWLEY, Baldwin, Wisconsin.

IF YOU WANT to sell or exchange your property write me. JOHN J. BLACK, 105th Street, Chippewa Falls, Wis.

Some Special Clubbing Offers

No. 5.
Michigan Farmer\$1.00
McCall's Magazine 1.00

Regular price, one year.....\$2.00
OUR PRICE ONLY \$1.55

No. 6.
Michigan Farmer\$1.00
Gentlewoman20
Home Life35
People's Popular Monthly..... .25

Regular Price, one year.....\$1.80
OUR PRICE ONLY \$1.55

No. 7.
Michigan Farmer, 1 yr., wk.....\$1.00
Woman's World, mo..... .50
Boys' World or Girls' Comp., mo.. .50

Regular price, one year.....\$2.00
OUR PRICE ONLY \$1.60

No. 8.
Michigan Farmer, 1 yr., wk.....\$1.00
Breeder's Gazette, wk..... 1.50
Woman's World, mo..... .50
American Boy, mo..... 2.00

Regular price\$5.00
OUR PRICE ONLY \$3.90

No. 9.
Michigan Farmer, 1 yr., wk.....\$1.00
Green's Fruit Grower, mo..... .50
American Bee Journal, mo..... 1.00

Regular price, one year.....\$3.50
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EGGS

Express shipments fresh laid, direct from farmers will bring a premium above the market. Ship to us.
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Selling Farm Produce Direct

THE "farm family" idea of selling farm produce is an attractive theory; but so far as investigations in New York cities indicate, it has not worked out well in practice.

In recent years the express companies made a systematic effort to develop the direct selling of produce from the farm to the city consumer. At one time there were many community organizations and factory employees' clubs receiving such products as butter, eggs, poultry, vegetables and fruit, through the express companies from the producers. This movement flourished for a while and then declined.

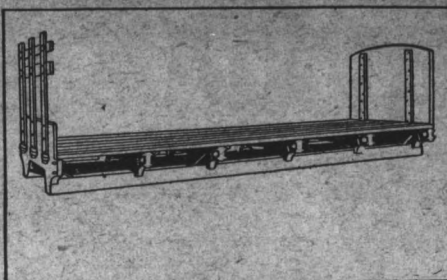
Attempts have been made in various cities on the part of the postal authorities to develop a parcel post delivery from farm to city home. This plan has made slow progress, and has not always proved advantageous.

The responsibility for the failure of these methods lies both with the producer and consumer. In too many instances the farmer has overcharged for his products, asking the consumer more than he would have to pay for the same quality of goods at the corner grocery. Other farmers tried to fool the city housekeeper by shipping inferior goods. And many city consumers have neglected to remit to the farmers for the goods received. Every infraction of the golden rule on either side has worked injury to the cause of direct marketing.

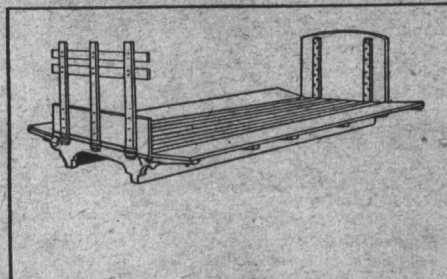
War time brought an agitation for farmers' markets in the cities. Rochester has long had an excellent wholesale market, but it is inaccessible for retail trade, to any extent, and farmers were forbidden to peddle their products in the streets without a huckster's license. In answer to the demands of various organizations of consumers and farmers, two retail curb markets were established in the fall of 1917, and farmers were permitted to peddle from house to house on payment of twenty-five cents each day at a firehouse in any part of the city. This movement, however, has not met the expectations of its promoters. During the past two seasons not many consumers have visited the curb markets, and few farmers have availed themselves of the privilege of house to house peddling. What is said of Rochester applies in a general way to other cities.

Commissioner Eugene H. Porter, of the New York Department of Foods and Markets, while he gives little encouragement to the farmers' retail market project in the larger cities, thinks that through practical cooperative efforts on the part of the town folks and nearby farmers, a farmers' market could be established in the smaller towns that would be mutually beneficial to both. He reasons that while the great middle class in the cities prefer to go to the corner grocery because of the telephone, free delivery and credit system, the smaller town people would more readily go to a market and carry home their purchases.

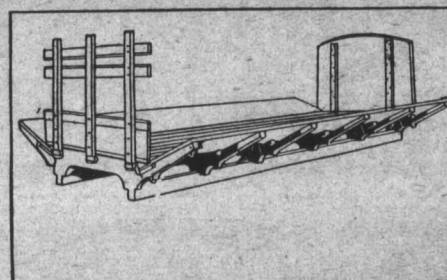
This direct from "farm to family" proposition is yet a difficult problem, which is best being solved by individual effort on the part of the producer and consumer. In every village and city there are opportunities for the farmer who has good products, attractively packed, for sale at reasonable prices, to develop a permanent retail trade, dealing direct with the consumer.—E. E. R.



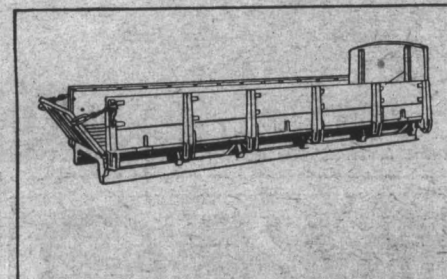
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PLATFORM—with extension side boards. Suitable for hauling baled hay, grain in bags, crates, etc.



PLATFORM HAY RACK—suitable for hauling hay, wheat, oats, corn stalks, etc.



REGULATION WAGON BOX—with removable sides and end gate for hauling dirt, grain, etc.

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—eight bodies in one.

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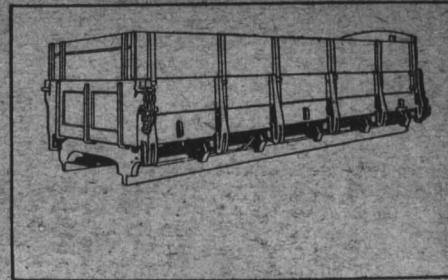
—a bear for work.

—see our dealer today

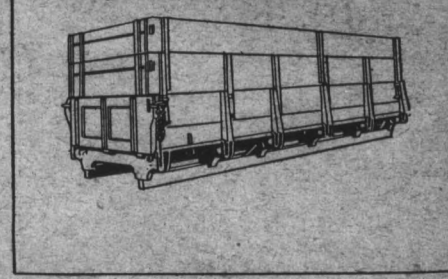
Model 10: 1 Ton, with Express body.....\$1535
Model 11: 1½ Ton, chassis.... 1885
Model 12: 2 Ton, chassis..... 2275
Model 19: 2-2½ Ton, chassis. 2395
Model 20: 3½ Ton, chassis.... 3450

All Prices F. O. B. Alma, Michigan

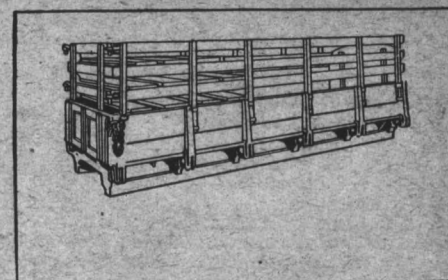
REPUBLIC MOTOR TRUCK CO., INC.
Alma, Michigan



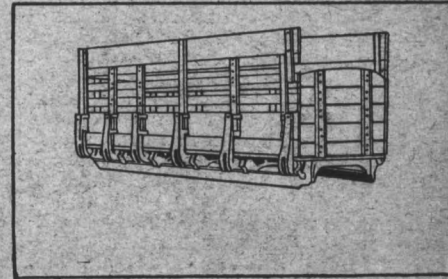
COMBINATION GRAIN, APPLE AND POTATO BOX—with two section tight removable sides.



THREE SECTION TIGHT REMOVABLE SIDE BOX—for hauling barn yard fertilizer, melons, cabbages, etc.



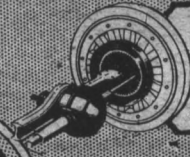
COMBINATION STOCK AND BASKET RACK BOX—for hauling hogs, sheep, etc.



CATTLE RACK—for hauling cattle; also transporting cotton.

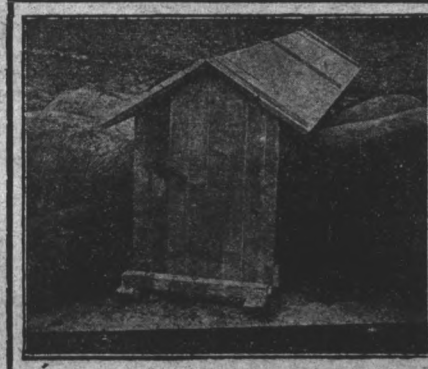
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A 100-lb. pig pays for it. Saves on purchase price, time, floor space, repairs and feed. Will feed 40 hogs. Sold direct from factory to consumer. \$18.50. Money returned if not perfectly satisfied. Further information supplied upon request.

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