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Mixing Brains with Sand

Lime, Legumes, Livestock and Systematic Alteration of Crops will Bring Profits from Unproductive Sandy Soils.

By H. W. Ullsperger

Wisconsin's Expert in Sandy Soil Work

HE who laughs last laughs best," said a central sandy soil farmer to me when he showed me his excellent corn crop. "My neighbors told me I could not grow corn on this poor, worn-out sand," he continued, "but I think I have one of the best corn crops in this locality."

"How did you do it?" I asked.

"By the use of manure and commercial fertilizers," was the reply.

By further questioning I was told that the previous crop on this field was soy beans—a legume crop; then the field was top-dressed with manure after a spring plowing; the manure was disced in thoroughly and a 2-12-0 fertilizer applied on the row at one hundred and fifty pounds per acre with a fertilizer attachment on a corn planter. The actual yield of shelled corn per acre was sixty-eight bushels. The increase produced by the one hundred and fifty pounds of 2-12-0 fertilizer costing \$3.00, was sixteen bushels per acre, valued at approximately \$1800. We will readily agree with our farmer friend in saying this was a profitable investment and the last laugh was surely the best.

The "Feed the Soil and it will Feed You" policy adopted by this progressive farmer illustrates what many others are doing on the light sandy soils in Wisconsin and Michigan. They are mixing "Brains with Sand" and the results in increased crop yields are very gratifying.

Kinds of Sandy Soil.

There are three different classes of sandy soils—sand, fine sand and sandy loam. From the farmer's standpoint there are two kinds of sandy soil, first, sandy soil in virgin condition or main-

tained in a high state of fertility, and, second, sandy soil that has been cropped and depleted and is in a low state of fertility. The clover crop is often considered the best fertility indicator on these light soils. A good crop of clover usually means a fairly good sandy soil. No clover on a farm usually means that crop yields are becoming smaller every year until a certain limit is reached, when farming becomes unprofitable and the owner sells his land for as much as he can secure

and moves away. The College of Agriculture of the University of Wisconsin has taken over during the past ten years two of these wornout farms to determine whether they could be renovated and farmed profitably. A special study on these farms and of successful farmers has resulted in definitely formulating certain rules which aid materially in producing larger crops and farming these poor sandy soils at a profit.

The usual practice on sandy soils

when clover fails to grow is to plant rye, buckwheat, potatoes and corn. The available supply of manure is applied to the potato or corn crop. This supply of manure is small, due to the farmer's inability to raise sufficient feed for stock. "No feed, no cows; no cows, no manure," as one man aptly expressed this situation.

Grow Soy Beans or Cowpeas.

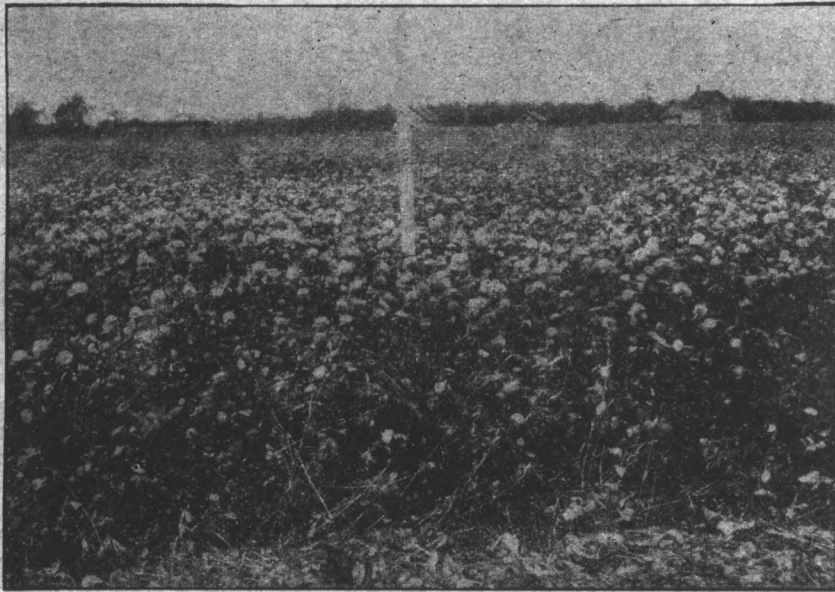
The feed problem can be solved by growing either cowpeas or soy beans, the soy beans being more hardy and better adapted to cold climatic conditions than the cowpea. These crops may be used for a variety of purposes. The soy bean has proven especially valuable when used for hay, silage, a cash crop and for building up the soil. Even the soy bean straw after the beans are threshed out makes good cattle feed, being nearly equal in feeding value to timothy hay and much better than wild marsh hay so frequently used by sandy soil farmers.

The value of soy beans for hay is clearly shown by statements of those who have grown them. Mr. Ayers, of Adams county, Wisconsin, stated, "Soy bean hay when compared with tame marsh hay increased my milk supply one hundred per cent." Another farmer stated, "Since growing soy beans I am keeping twice as much stock on my farm, and feeding them better."

The practice of growing soy beans with all silage corn and using the combination for silage is becoming universal among progressive farmers. It means silage with a higher protein content.

Soy beans also make an excellent cash crop. Yields of eight to twenty

(Continued on page 37).



An Excellent Crop of Clover on Light Soil.



Intelligent Management and the Application of 300 lbs. of 4-12-0 Fertilizer Resulted in a Crop of 48 Bu. of Shelled Corn Per Acre on this Sandy Land.

The Michigan Farmer

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DETROIT, JANUARY 10, 1920

CURRENT COMMENT

Farmers Looking Forward

At a farm bureau meeting in a typical Michigan county, several prominent farmers who were exchanging views, wondered whether or not they would find it profitable to continue to hire farm help and maintain their present acreage of farm crops in 1920. The small company of farmers, all from the same county, who talked things over at the meeting all agreed that they had made a fair profit in 1919 because the range of prices for most of the staple products had been high, and most of them agreed that the range of values could not logically change for two or three years, chiefly because any serious decline would place the farmer who produces only average crops out of the running. These men owned their farms, had studied the problem and were prepared to conduct their farming along economical lines.

One of the men sounded the keynote of the present farming problem in Michigan in the following words: "The difficulty of securing labor for a few days or weeks is compelling me to change some of my operations. More grass, small grains and the feeding of beef cattle will about solve most of my troubles. I figure that the man who owns his land can make more money, and make it with less risk and worry, by practicing mixed farming, including a few good beef cattle, hogs and sheep, than by growing grain and hay for the market, or hiring extra help needed to conduct a dairy business. I am not so sure that beef cattle will return a greater profit in a given time than will dairy cattle or growing grain and hay for market, but in my business I am not so much interested in some one kind of farming, that might possibly outpay any other, as I am in several lines that may be worked into a system which gives security to the business and provides for the maintenance of soil fertility. A herd of dairy cattle may be made to pay a profit on a small farm, or even on a large farm where the owner has plenty of help at all times of the year, but there are hundreds of men who have large farms and no one but themselves to take an interest in the business. These farms produce large quantities of feed, which without live stock, fails to yield any profit. I have yet to find a farmer who has succeeded in following a crop rotation, based on practical methods, that keeps his land busy and productive who does not feed one or two kinds of live stock. Intensive farming

is too expensive and complicated to meet our present-day labor and operating charges, so my idea is to cut down as much as possible on hired labor, put more land in grass and small grain crops and feed a few good animals, that can be properly conditioned without going on the market and buying large quantities of grain feeds and by-product concentrates. Specialties have an important place in our agriculture, but the good, old-fashioned, self-supporting farming is good enough for me until conditions again return to normal. My income may be smaller, but my farm will be richer and I can lead a more contented and satisfying life."

This man is looking forward to the year of 1920 in the same manner as hundreds of other thoughtful men whose interest in their farming is none the less keen. Many of us have been so afraid that the readjustment of business after the war would puncture the balloon of high food prices that we have been fearing the outcome, and so certain have some of the so-called leaders of agriculture been that farmers would face ruin in the great break in prices that they are now doing their best to cause unrest and make their false prophecies come true. But fortunately the thing does not seem to be working out along prophesied lines. A feeling of stability is noted in nearly all farming communities, and the farmers are making plans to go ahead along safe and conservative lines and do their share toward restoring the whirling, dizzy world to its equilibrium. In the meantime a few of these radical prognosticators are becoming alarmed because agriculture is coming back to normal, and are endeavoring to create a wave of unrest that will triumphantly float their "soviet ark" of prophecy.

Making Better Farmers

The most significant movement in agricultural life today is the progress of the boys' and girls' club work. From a small beginning in the southern states some years ago the idea has rapidly spread to all sections of the country until upwards of seven hundred thousand boys and girls are acquiring an interest in agriculture that in time will correct the old idea that the farm offers no opportunity for advancement. The boys and girls of today will be the farm men and women of the country in a few years hence, and there is every reason to believe that they will be more progressive and better farmers and citizens than the generation before them.

Farm boys and girls should be encouraged to take an interest in the affairs of the farm. It is a wise father who in plowing, drives the team and allows the boy to hold the plow handles. It is a wise mother who, at times pretends illness and turns to the girl to bake bread for the family. After a few kindly lessons the father and mother can have the joy of knowing that there are young pilots at the wheel, needing only kindly direction and counsel from time to time to bring safely into port the ventures of the farm. As early as the boys and girls begin to think and reason they should be encouraged to put their personality into the little things of farm life, and given encouragement and training that will prepare them for the larger things.

Many county agents are overlooking their best opportunity for service through neglecting to take up and encourage boys' and girls' club work. Some of them complain that it requires too much hard work, and that they are unable to interest parents and business men to help out with the work. Of course, it means a lot of hard work, and frequently it requires tact and skill to create a community interest in this kind of work, but why do we have county agents unless it is to interest

and train our boys and girls as well as the old hard-heads who are held down by dogmas and prejudices? Every dollar invested and every hour's time spent in a plan to make better farmers out of our boys and girls will result in greater agricultural progress than ten times that amount expended on a campaign to interest their parents. Boys' and girls' club work, and the activities of the county agent should have a closer relationship in many counties here in Michigan.

Buying Dairy Feeds

The high prices of all kinds of grain and by-product feedstuffs is the prevailing topic of conversation among dairy farmers. The lofty figures attained by some of the grains in recent quotations on the market have set feeders of dairy cattle to guessing what will happen in the next few months. The mixing of causes creates confusion in the attempt of the novice to analyze the situation. Besides the normal supply and demand, there is the fixed price of wheat, the foreign demand and exchange problem, as well as the fluctuating prices of meat-producing animals, all of which make it difficult to know just what course prices will take during the coming months.

Of one thing dairy farmers are certain in this connection, and that is that present values of grain and by-product feeds are extraordinarily high, and in some cases higher than they can afford to pay. Who can blame the dairy farmer for playing safe by feeding fewer cows and making better use of his home-grown feeds? Of course, he must go into the feed market for considerable of his grain supply, and it is important that when he does he should buy wisely and have some knowledge of the feed situation. It is this phase of the dairy business that is disturbing milk production on many farms. Nothing can be done to bring about a sweeping reduction in feed prices, but the keen-minded feeder may profit in the long run by studying the trend of the feed markets, and planning his business so that he will be ready to stock up on grain and by-product feeds at times when he can make judicious purchases.

Another factor which has a great influence upon the price of dairy feedstuffs is the increasing demand from manufacturers of mixed feeds for some of the standard by-product feeds of high protein content to use in mixing with inferior materials of low protein content. Many of these mixed feeds have a high feeding value, but the great trouble with some of them is that they contain an excess of the very elements that no good dairy farmer is justified in buying. For this reason the purchaser of dairy feeds, to protect himself, must know feeds, and when to buy them to the best advantage.

In order to furnish reliable information concerning the movement of grain and by-product feedstuffs, the probable demand and available supply, the editors of the Michigan Farmer have arranged with the leading market expert in America to furnish a monthly article touching upon the supply of dairy feeds and the probable demand from manufacturers of mixed feeds and feeders of live stock in different parts of the country. The first article appears in this issue and we are sure that a review of the feed situation each month will help our readers in keeping down the cost of producing milk. So long as dairy farmers depend upon purchased grain feeds to balance up the supply of home-grown roughage and grain feeds they must fill the wide gap between a reasonable profit and the present small income from both ends. Home-grown feeds must be produced more economically, and purchased feeds selected more intelligently.

News of the Week

Wednesday, December 31.

It is agreed between the Allies and Germany that peace terms will be signed at Paris on January 6.—The federal tax collected from the Detroit district in 1919 amounted to \$186,798,745.—The first passenger service under the American flag between the United States and Buenos Aires starts.—American bankers favor government control of the issuance of stock and bonds by railroads.—It is predicted that Canada will electrify the railroad yards of her government railways.—The number of Germans killed in battle during the recent war is now placed at 1,500,000.

Thursday, January 1.

The Federal Reserve Board declares that high wages and reduced production constitutes a real menace to the future of American business.—Elihu Root is invited to assist in the launching of the international supreme court provided by the league of nations.—Industries in northern France are now about half restored as compared with pre-war industrial conditions.—At the close of 1919 there were issued 6,666 charters for local posts of the American Legion.—Early returns from Australian elections show that the nationalists continue in power with thirty-eight seats against twenty-seven seats won by the labor party; the ten seats returned by the farmers will support the nationalists.

Friday, January 2.

President Wilson signs bill continuing sugar equalization board for the year 1920.—The commerce of the United States for 1919 reached new records, exports aggregating a value of \$1,000,000,000 and internal commerce amounting to \$85,000,000,000.—The Hog Island shipyards at Philadelphia have turned out seventy-four vessels since August 5, 1918.—Feeling against Japan is rapidly developing in Korea.—The Esthonia and soviet governments of Russia sign an armistice.—Irkutsk in Asiatic Russia is under siege.

Saturday, January 3.

In a nation-wide raid federal agents take 2,800 radicals into custody.—An investigation of political conditions in Russia is to be made by an allied commission.—The bureau of railway economists states that during the twenty-three months of federal operation of railways the net loss amounted to \$548,000,000.—Sweden and Germany extend trade treaty to March 31.—The ending of the railway strike in Porto Rico will clear the way for the early movement of the sugar crop to this country.—Five workmen were killed by an explosion in a powder plant at Wilmington, Del.—Thirty former German passenger ships seized at the beginning of the war, will be sold at auction by the United States government to the highest bidder.

Sunday, January 4.

Government officials claim to have uncovered evidence which shows the plans of radical leaders to have been the ultimate overthrowing of the government through developing the coal and steel strikes into a general strike and finally into a revolution.—The senate military committee recommends radical changes in our present military system.—The German government is facing two counter revolutions—one fathered by the royalists and the other by the proletariats.—The twentieth annual automobile show opens in New York City.—Municipal employees of Montreal who recently struck have had their positions filled by other men.

Monday, January 5.

The American food relief commission who plan for feeding the undernourished children of Germany and other European nations receive the thanks of President Ebert.—Violent earthquake shocks occur in many parts of Mexico and scores of persons are killed.—The second pan-American financial conference will be held in Washington on January 19-24.—Mrs. Charles E. Townsend, wife of Senator Townsend of Michigan, dies at the Townsend home in Washington, following a long illness.—Premier Nitti, of Italy, is in Paris for conference with the allies on the Fiume problem.—Admiral Kolchak head of the Omsk government of Russia, notifies the United States that he must have aid or he will cede territory to Japan.

Tuesday, January 6.

Heavy Japanese forces are sent to aid Admiral Kolchak.—Lettish troops break the bolshevik front along the Dvina river.—The entente allies reduce the shipping tonnage demanded of Germany in reparation of the ships sunk at Scapa Flow by 125,000 tons.

Why We Breed Angus Cattle

By Alex. Minty,
Manager Woodcote Stock Farm.

IT is with a great deal of pleasure that I answer your question, why we are breeding Angus cattle. I am not prejudiced, and do not think that other breeds of beef cattle are not valuable, as we surely have some great cattle among the Shorthorns and Herefords, but naturally I like the "bonny blacks," because, during my early life there were some great herds of Angus near the place where I was born. I will always remember the pretty picture they made, studded over the heather hills of Banffshire, especially in the early spring months when the heather was in bloom, you could see the tiny black specks away up on the hills, slowly but surely making money for the man who owned them, doing their bit at every bite.

Aberdeen-Angus cattle can be turned out for themselves, with a lusty calf at foot and one need not worry further until it is time to bring them up for the winter. The calf, one can rest assured, will be well taken care of, not only with a generous flow of milk, but the mother will stand between it and every danger, for the cows are the best mothers of any breed that I know of. They will give the calves a good start in life, and after that, it is possible to carry them along very cheaply to maturity. They are especially adapted to the feed grown on Michigan farms, and I believe that today we can raise a better Angus than our forefathers. Of course, we must consider that in Scotland the feeds are different than we grow here, and, I believe, their methods of feeding can produce an animal with greater wealth of flesh, and it can be put on more evenly than is possible with the feeds grown here, as our corn will make more tallow which tends to produce a harshness to the touch, but nevertheless the corn seems to fit the Angus, and today we are turning out some great cattle. The Shorthorn and Hereford breeders have a wholesome respect for the Angus when they meet them in the show ring, as the Angus will invariably give them a great battle, and the only way I can account for this is that the corn fitting of the Angus, with a little oil meal, will put a wealth of flesh under the hide that the critical judge cannot get away from, while the other breeds with the same amount of fitting will not show the same touch, neither can they come up with the same dressing qualities.

Some people wonder where the Aberdeen Angus derived their name, and where they originated. The breed derived its name from the counties of Aberdeen and Angus. The former is one of the largest in the northeast of Scotland, while the other name, or

term Angus, has been obsolete so far as the name of the county is concerned, for the territory known as Angus is now chiefly comprised in the county of Forfar. Due to the fact that breeders in Aberdeen claimed priority in the development of the breed, they insisted that the breed be named Aberdeen while the breeders of Angus, being equally confident the breed originated in Angus, refused to ignore the term Angus in naming the polled cattle of their county, thus compromises were made to the satisfaction of all breeders interested.

The modern breeder of cattle is more interested in securing the best in whatever breed he is working with

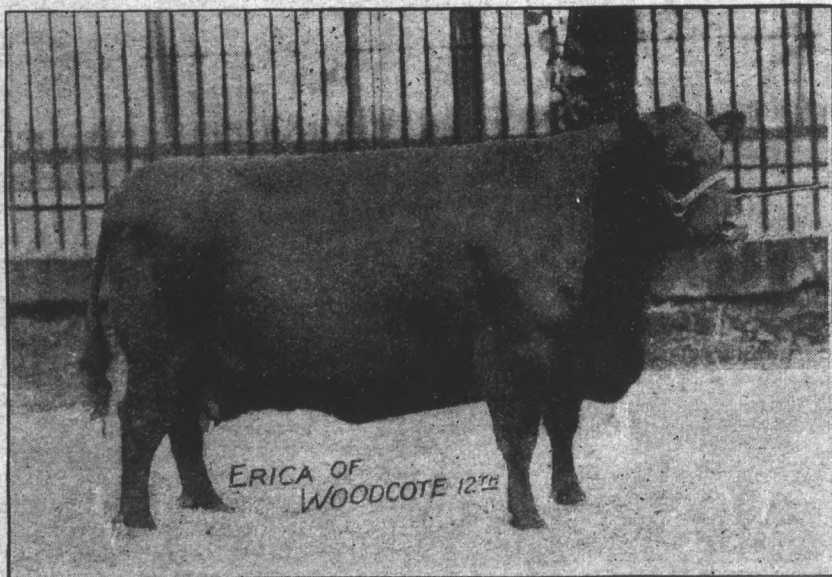
very best cattle, as a good animal is always as cheaply raised. It is not my purpose to enter into any long controversy over blood lineage, but I do want to say that the man who has a line of blood that is favorable to the purchaser, no matter what his fancy is, he will naturally secure the larger price. It is a good idea to bear this in mind when laying the foundation for a herd. Always buy a few of the best individuals and have the pedigrees to go along with them. It is always better to do this than to begin with a larger herd of poorer bred cattle. We can build up a herd with wise selections of sires, but no matter how much we pay for a sire he should come

crop of calves appear the price will soon be forgotten.

It seems to me that today the average Michigan farmer can handle the beef breeds with much less overhead than he can a dairy herd. He can get along with less help, which is the greatest problem we have to contend with. The dairy cow must be given careful attention and milked regularly, while the beef cow can be turned loose with her calf, and, if given good feed and a dry place to sleep, she will get along with a little cooperation of her owner.

We find that the Aberdeen-Angus breed fits very well into our line of farming here in Michigan. They are hardy and like to be out every day in the open, no matter how cold it is, which in a great measure keeps them healthy and free from all ailments that might exist if they were kept in a close, poorly ventilated stable. If I were to begin the management of a new herd of cattle I would not want to make a change of breeds. I like the Aberdeen-Angus breed and would naturally succeed better with them than with a breed I do not like so well. One gets acquainted with one's fellow breeders, and likes to meet them at the leading fairs and exhibitions once a year, exchange stories, and hear what his cattle have been doing for him. Another thing about the meeting with your fellow breeders, especially if you are in competition with them, is that you want to show them that you are the better man, by showing better cattle. This is not always easy as you have to consider that they may be just as skillful feeders, as good judges and as skillful showmen. The selection of the show herd is one of the most vital problems for it is important that one have a careful eye to picture what the animal should be when finished. It is difficult to make a selection of an animal that will condition uniformly and not put on a little flesh here and there, just enough to spoil the conformation of the finished article before the beginning of the show season. I do not look at the individual alone, but keep tab on how some of the near relatives have fitted out. After some experience with a brother or sister, or possibly the mother had a low back, and if she had it, it is a good idea to leave the daughter out of consideration for all such things transmit badly, and the worst thing in a show ring is a weak back. If she is somewhat slack in this respect when in a thin condition one can always gamble that she will be still more so when properly fitted for the show. Always select show animals with nicely cut heads, so that when

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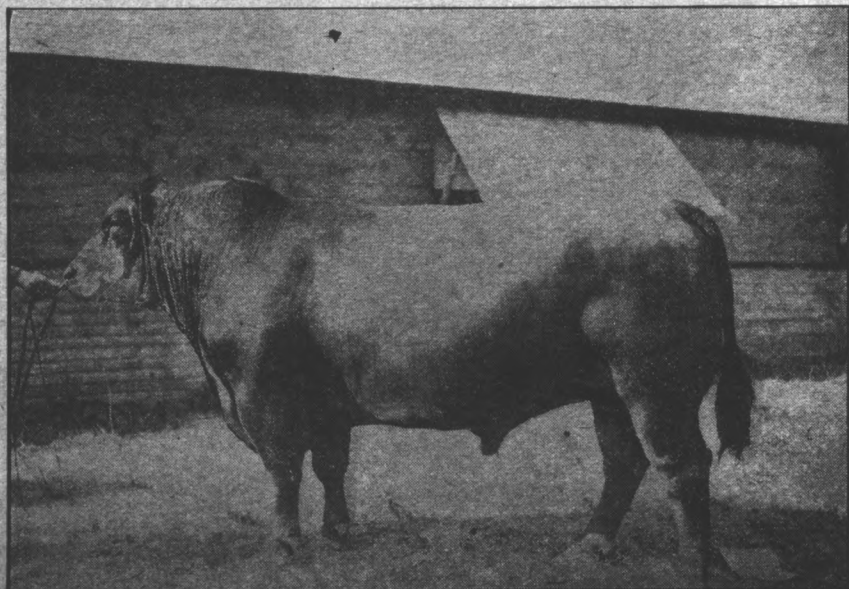
Grand Champion Cow at Michigan State Fair, Woodcote Stock Farm.

than he is in ancient breed history. He can look forward to a keen demand for the future. He is writing the most glorious pages of all breed history. In this country the Aberdeen-Angus have made a very credible record by its successful exhibits and adaptability to fit into any line of general farming. They can be carried along cheaply, are always fat and sleek, and always ready for market, and even when the farmer is overtaken with a dry season he can maintain them on scant rations with less loss than is the case with other breeds of cattle.

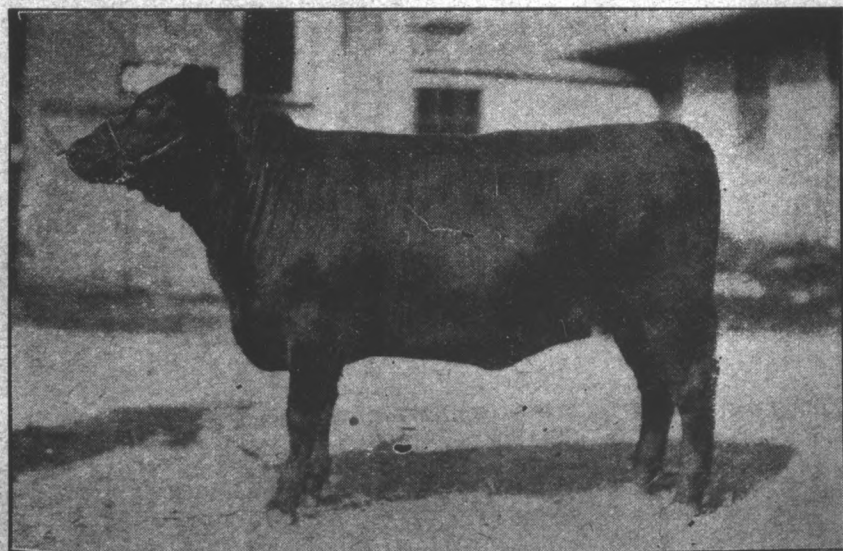
The breed is finding wonderful openings in our southern states and in South America, the South American countries being active buyers of the best stock they can secure. If American breeders are to secure this new business it will pay them to raise the

from a line of blood that has the stamp and conformation that will niche well with the cows that he is to be mated with. Not that the dam is merely a figurehead in the breeding herd, but the sire is the one great factor in the matter of improvement, and there should be one great bull on every farm where good cattle are kept, regardless of the cost.

I have had buyers come to our farm who thought that one hundred dollars was enough to pay for a bull. If the breeder of today measures the value of a herd sire by a few hundred dollars one way or the other he will soon measure himself out of the business. It pays well to look closely into the ancestry of the bull one intends to use. One should look at his sire and his dam, and if the animal suits buy him. You may think you have paid an extremely high price, but when the first



Lapeer Blackbird, at the Head of Marshall Kelly's Angus Herd.



Kate of Doddie Farms, Owned by Dr. G. R. Martin & Son.

Dairy Feed Prices and Prospects

By Sanders Sosland



WHILE available feed supplies in the United States this year are generally considered larger than a year ago and above the average for recent years, with probably more uneven distribution, the prices on feed markets are close to record high levels. This is not an inference that demand and supply no longer regulate the price of cottonseed cake and meal, linseed feed, alfalfa and clover hay, mill feed, mixed feeds and other products, for these basic factors as never before control market values. But such a rather anomalous condition in the trade brings out strongly the fact that an enormous demand has prevailed for feed, far over-balancing the market movement from increased production.

Bran, which is finding an extensive outlet on the dairy farms of Michigan, ranks among the feedstuffs commanding abnormal prices. Naturally, the dairyman is reluctant to pay the high figures demanded for the offal of flour mills, and his purchases are in a far smaller volume than would be witnessed at this period of the year were offerings available at a lower level. The dairyman is buying only sufficient for the current requirements of his stock, and wherever possible to substitute cheaper feedstuffs and not materially affect the flow of milk, such a method of feeding is being practiced. The dairy trade as a whole is looking forward to lower prices for bran, and milk producers are regulating their purchases in a manner which will find them with empty bins when declines are witnessed.

The general position of the market for bran is favorable to a downward trend of prices. There has been an enormous production of flour by mills of the country, estimated at more than 70,000,000 barrels since the opening of the crop year by the United States Grain Corporation. Such a total of flour indicates the production of approximately 2,500,000 tons of bran and shorts. The flour output of the United States since the opening of the crop is around 11,000,000 barrels above the total for the corresponding period in 1918, which means an increased production of bran and shorts over a year ago of 375,000 to 400,000 tons. Millers of the country are generally well sold up on flour for the next thirty to sixty days, and it is probable that the production of flour will continue around 3,000,000 barrels weekly for some time yet. For this reason available supplies of bran and shorts for markets will continue liberal.

Buying of bran has been confined largely to the extensive jobbing interests and speculative trade on markets. The actual consumptive demand has not been heavy at any time during the late fall and winter period, and dealers who specialize in sales to retail handlers in the interior almost generally report a lack of interest among their customers. The stocks in dealers' hands already are fairly liberal, they having accumulated feed in the hope of witnessing marked improvement in demand from the dairy trade with the advent of winter. Such buying, however, has not developed, with the result that the country trade is not absorbing bran to the extent anticipated by terminal market interests. Also, it is believed that mills hold much bran in their warehouses, either having withheld their offers from market in the hope that further advances in prices would be witnessed or because of inability to find an outlet sufficient to absorb their production.

With the first severe cold and stormy weather of the season, in December, together with the serious situation resulting from the coal strike, bran prices

soared upward from around \$36 a ton, sacked, in Minneapolis and Kansas City, to around \$42 to \$43 a ton. On the Chicago market, values reached a top of \$45 to \$46 a ton. These high levels prevailed during the greater part of December, though a top-heavy condition developed in the market before the close of the 1919 calendar year. At the present writing, bran is being offered around \$40 to \$41 a ton in Minneapolis and Kansas City for January and February shipment. Some speculative handlers are taking hold at these levels, merely as a speculation. But conservative members of the trade are holding off, looking forward to lower levels.

The approaching heavy movement of corn from the country and an almost general belief that values for the coarse grain will turn down rather sharply when markets begin receiving large supplies are bearish factors in the mill feed market. Of course, corn is not used to any extent as a substitute for bran, yet the leading coarse grain yields a tremendous influence upon the feed market, as a whole. Shorts, which now are selling at a premium of \$8.00 to \$10 a ton over bran, are expected to decline to within \$4.00 a ton of the light offal feed. It would not be surprising to witness a decline in the bran market to around \$38 a ton within the next thirty to sixty days at the principal milling centers in the west, and close to the \$40 mark

ing September and October caused heavy damage to the seed, reducing sharply the amount available for making meal of suitable quality for mixture in dairy feeds. An offsetting factor in the flaxseed situation is the large crop in the Argentine, which is now being harvested under highly favorable conditions. Much flaxseed is reported to have been contracted by the crushers of the northwest and east in the United States, and some already is moving. Shipments from the South American republic, however, are uncertain, and the activity of domestic mills is seriously reduced.

Heavy sales of cottonseed meal to mixed feed manufacturers of the east have been made in recent weeks by mills of the south, the commercial mixed feed product, in turn, enjoying an enormous demand from the dairy trade. In fact, it is said in the cottonseed feed market, heavy buying of mixed feeds by dairymen, who are enjoying relatively high prices for their products, has been the outstanding influence in the present extraordinary level of cake and meal prices. The beef cattle feeder has not been a heavy buyer of cake and meal; in fact, the owner of beef cattle in feedlots is taking less cottonseed feed than usual. Rangemen of Montana, Wyoming, North and South Dakota, Nebraska and other states in the northwest some of which suffered severely from drouth during the summer months,

ing having been delayed by unfavorable weather and difficulty in obtaining seed. Mills had contracted for large amounts of feed for later delivery. Also, many mills are working off their damaged seed, which is in larger supply this year than in many seasons, further reducing the amount of feed available for feeders' requirements. The fertilizer manufacturers are the principal buyers of the off-grade meal, and, while demand from this source is enormous, the trade is balking at high prices.

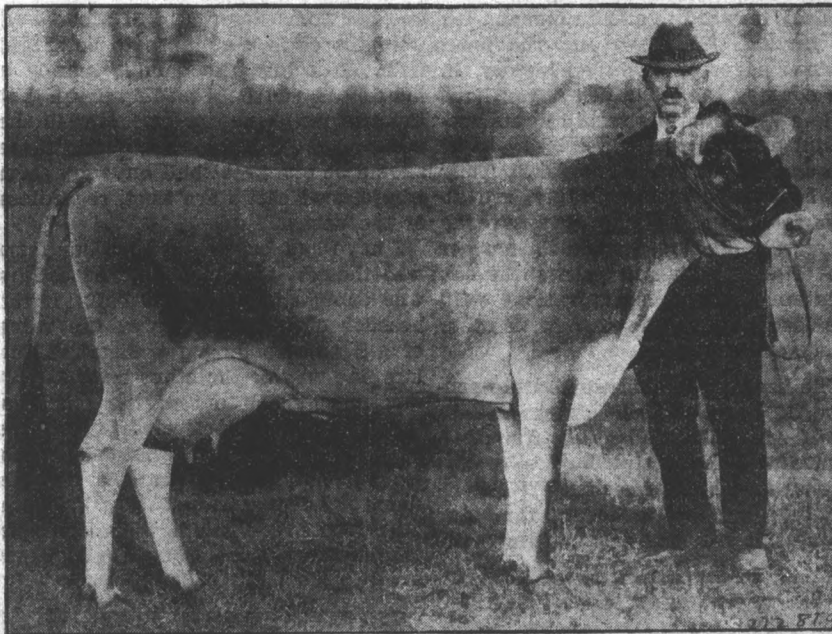
Cottonseed supplies are dwindling rather sharply, and it is said that the peak of activity among mills of both the southeast and southwest will have passed by the close of February. No cake or meal is being stored for later requirements, because of the unattractive level of prices for later sale, so it is possible supplies may become much scarcer as the season advances. Still, there is a possibility that when mills market their stocks of off-grade seed and begin grinding generally on good seed, cake and meal prices may ease off slightly. This may be witnessed during the latter part of January.

Cottonseed cake and meal of forty-five per cent protein content is selling around \$84 to \$85 a ton in Chicago or in the important feeding belt, \$82 to \$83 for forty-three per cent protein feed, and \$64 to \$65 for cold pressed cottonseed cake. In Arkansas mills are asking around \$70 a ton for cottonseed cake and meal of thirty-six per cent protein content.

In the linseed meal market, prices are around \$82 a ton at Minneapolis, and around \$84 to \$85 in the leading feeding states. Flaxseed prices are high, around \$5 a bushel, which adds to the strength of the feed. Seed is moving to market slowly, and mill activity is limited. Northwestern crushers are said to be well sold ahead, with current demand brisk. While linseed feed already is at an abnormally high level, making further advances improbable, the situation surrounding the trade offers little hope for a downward trend of values. Heavy imports of flaxseed from Argentine would relieve the domestic situation to a great extent.

While Michigan feeders are not heavy buyers of alfalfa from the southwest and west, dealers on the Kansas City and Omaha markets report a more than normal volume of sales to their state. Alfalfa is selling up to \$38 a ton in Kansas City, the largest hay market in the country, which is a record figure for the crop year. An enormous demand prevails from the dairy trade of the east and other sections of the country despite the high level of prices. The Detroit market quotes around \$28 for clover, though in the more central markets the hay is extremely scarce, with sales well above \$30 a ton. Fairly large production of clover is reported in Michigan this year, which has lessened demand from dairymen of the state.

Dairymen should follow closely the trend of values for corn in January, also oats and other grains. At this writing corn in Chicago is selling up to \$1.45 a bushel, but if the large movement materializes in January, declines doubtless will be witnessed. Oats are at the highest point of the season and at near record heights, around eighty-five to eighty-seven cents a bushel for carlots in Chicago. Short production is the bullish factor in the oats market. The tendency of corn and oats prices influences values for other feedstuffs to a great extent. The weather conditions and car shortage are other factors, all of which now are favorable to a downward price tendency in January.



Lulu is a Jersey, who Produced 1,000 Pounds of Butter in One Year.

in Chicago. Weather conditions are a factor. Severe cold which tends to increase production, might retard the decline, while mild weather conditions would increase the bearish position of the market.

Unlike the position of bran, market interests cannot claim large production of cottonseed cake and meal and linseed feed. The high concentrate feeds are seriously short, owing to a small production of cotton and flaxseed in the United States this year. The final figures on the production of flaxseed in the United States place the crop at 8,919,000 bushels, compared with a final out-turn in 1918 of 14,657,000 bushels, and 29,285,000 bushels, the largest crop on record, in 1902. Cotton production is around 11,000,000 bales below the average. Not only was the cotton crop short, but heavy rains dur-

are buying considerable quantities of cottonseed cake for their winter needs. But other range sections are taking only small quantities. Oklahoma and Texas, for instance, which states produce large amounts of cottonseed feed and which normally are heavy consumers, are taking little this year. Some estimate the buying of Oklahoma and Texas this year will not be a fourth of normal. Aside from the high prices, which tend to reduce consumption, Oklahoma and Texas have an enormous crop of roughage, including kafir and milo, and naturally will require less of the high protein feeds.

Many cottonseed mills in the south still are behind on orders, as much as sixty days in instances. Orders had been accumulating during the early fall months and before mills could resume grinding on a large scale, crush-

Mixing Brains with Sand *(Continued from First Page)*

bushels have been reported, which sold at \$5.00 to \$6.00 per bushel. No grain crop will give as large a net return per acre.

Soy beans grow readily on these light soils, requiring no special machinery, but there are certain details in growing the crop which must be observed.

1. Plant seed either with a drill, bean attachment to a corn planter, or with a hand-planter.
2. Do not plant seed too deeply. One inch deep is sufficient.
3. Plant in rows, either eighteen, twenty-four or thirty inches apart.
4. Be sure to inoculate the seed with bacteria by using either commercial culture or soil treatment. If you do not inoculate do not grow this crop.
5. Use a good weeder immediately after planting and every week or ten days thereafter until beans are a foot high. Do not be afraid of injuring the plants. They seem to thrive on such abuse.

The farmer on worn-out sandy soil should first start to increase his crop yields by planting soy beans on one-third to one-half of his farm. One-third of his soy bean crop should be used for hay, one-third for seed or cash crop, and one-third for plowing under to prepare his land for corn and clover the following year. The nitrogen and humus supplied by well inoculated soy bean plants produces much better corn and prepares the soil for a crop of clover during the following year.

Growing Clover the Next Step.

"My soil used to grow good crops of clover five or six years ago, but it does not grow any now," is the usual story by farmers who own land cropped for a long period of years. When these men are questioned further as to why their clover crops fail, they will blame grasshoppers, dry weather, too heavy a nurse crop, poor seed, etc. All of these factors are important but usually these men do not consider soil conditions which are the source of their troubles.

Mother Nature has laid down certain rules which we must follow. She has placed a certain amount of plant food in the soil and when this is nearly exhausted, nature states, "you shall take no more unless you replace a portion of what you have taken." However, nature is very liberal and has provided ways and means of restoring this lost plant food. Clover and other legume crops add the necessary nitrogen. Immense limestone, phosphate and potash deposits furnished by nature supply these elements; requiring only human brains, energy and effort to mix these ingredients in the proper

proportion to produce a good crop. Lime, phosphate, potash and humus must then be mixed with the soil to produce a clover crop which in turn will furnish more humus and nitrogen. To grow clover successfully on light sandy soils, it is necessary:

1. To plow and disc thoroughly.
2. To firm the soil with a culti-packer.
3. To inoculate with the proper bacteria.
4. To use lime on acid or sour soils.
5. To apply a light top-dressing of manure.
6. To seed about one inch deep, with a drill, preferably in early spring.
7. To use either no nurse crop or a light nurse crop.
8. To cut and leave weeds or nurse crop on the field to protect clover from hot sun during midsummer.
9. To apply a light dressing of straw in fall to prevent winter-killing.

These directions may appear to be

available means, which will be explained later. If limestone is needed apply it during the early fall. During the winter or early spring top-dress the rye field with ten loads of manure per acre.

As soon as the ground is in workable condition in the spring disc in the lime and manure. They must be mixed with the soil. Do not worry about the rye. Discing will not kill it. In fact, this treatment has increased the yield of rye per acre by producing larger heads on each stalk, and also a larger kernel.

Now the field is ready to plant to clover. Use, preferably, a single disc drill with grass seed attachment and sow about fifteen pounds of seed per acre, one to one and a half inches deep. If soil is too loose use a culti-packer to firm just before seeding.

Inoculate Seed Before Planting.

Do not forget to inoculate clover seed before planting. Use either com-

pose of a nurse crop. These may be cut with a mower and allowed to lie on the field as a mulch for the new clover plants.

Oats, barley and wheat when used as a nurse crop, should be planted at about one-half the usual rate, so as to give the clover plant an opportunity to secure its portion of the limited amount of plant food in the soil.

Clover Crop Important.

The value of the clover crop as a soil builder is strikingly illustrated by the experience of two neighbors (farmers) in a central Wisconsin community. Both had good fields of clover. One man was a thrifty farmer who cut the first crop of clover for hay and the second crop for seed. The other was also classed as a pretty good farmer but was occasionally tempted by liquor and at times drank too freely. It so happened that when haying time came his crop was not cut and stayed in the field. The following year both men planted potatoes. The thrifty farmer who removed his clover crop the previous year received one hundred and ten bushels per acre and the other man secured two hundred and twelve bushels per acre, a substantial return for his clover crop.

Moral—Grow more clover on light soils.

(Mr. Ullsperger will contribute other articles on farming light soils. Watch for them).

STOCK RAISED ON SHARES.

I took some turkeys of a neighbor to feed, raise and roost on our farm and to receive half of the turkeys for my pay. There are young turkeys now nearly grown and I think they intend selling them and paying me nothing. What remedy have I? SUBSCRIBER.

A person feeding or pasturing stock for hire has a lien on the stock and can hold it for his pay. The taking of the stock by the owner from the pastures without paying for the pasturage, and with intent to deprive the pasturer of his pay, makes him liable criminally for larceny. An action of Trover also lies on which the pasturer can recover the amount due him as for conversion of his property, including the costs. If the judgment is not paid he can have a body execution against the judgment debtor and keep him in jail until it is paid, or levy upon the debtor's property, any property not exempt from execution, and sell it. His better remedy is to retain possession, as he has a right to do, until the amount is paid without any legal proceedings whatever, unless he gets tired of waiting, in which case he may sue for his dues without sending the stock back.

J. R. R.



Soy Beans Turned Under Last Year, Rye Yielded 15 Bushels Per Acre.

rather difficult to follow but they do not demand more than every man should do for all crops. The haphazard method followed in planting crops in many light soil sections is responsible for numerous failures.

Clover with Rye as a Nurse Crop.

Rye has proven to be an excellent nurse crop for clover when the method outlined below is followed:

Plow under soy beans and disc the land thoroughly before planting rye. Sow one bushel of rye per acre about September 15. Firm with a culti-packer, which leaves the land rough so blowing of sand by wind will not be a serious menace. Then determine if your soil is acid or sour by using blue litmus paper, Truog tester or other

commercial culture or soil. The average farmer believes that his soil is properly inoculated for the clover crop, but where clover has failed, inoculation is necessary.

Mammoth Clover Best.

Mammoth clover is more hardy and can withstand more severe winter conditions; is a more vigorous grower, being able to secure its plant food more readily. It grows about the same size on sandy soil as medium clover does on heavy soils.

Nurse Crop for Clover Not Always Necessary.

Where sandy soils are not subject to severe erosion by winds, clover may be sown without a nurse crop. Weeds, however, grow up and serve the pur-



This Unfertilized Sandy Field Yielded Only Sixteen Bushels of Shelled Corn Per Acre. Compare with Illustration on First Page.

News of the Agricultural World

ST. CLAIR COUNTY FARMERS ARE STRONG FOR FARM BUREAU.

ST. CLAIR county seems likely to set a new record for memberships in the Michigan State Farm Bureau, which now has extended its campaign into ten counties. In one St. Clair township last week, 130 farmers out of a total of 133 solicited signed up. The response to the farm bureau movement in St. Clair shows better than ninety per cent of the farmers there in favor of it. Present indications are that close to 2,200 farmers will be enrolled in St. Clair when the drive ends. Oakland county with close to 2,000 members holds the farm bureau membership record now.

When the drive ends there this week the solicitors will move into Macomb county. R. G. Potts, of Washington, says that county, though smaller, will make as good a percentage record in members as St. Clair. Potts is the Macomb campaign manager.

Work was resumed this week in Genesee county after a lay-off over the holidays. In the week of January 12, these Genesee solicitors will move into Tuscola, where A. N. Wilcox, W. C. Sanson and Alex. McVittie, the county agent, are perfecting township organizations now. The campaign also started this week in Kent county and from there will extend into Ottawa and Eaton counties in that order.

At the present rate of organization, the membership of the Michigan State Farm Bureau by February 1 will be close to 20,000.

AN IOWA FARM BUREAU OF ONE HUNDRED THOUSAND MEMBERS.

THE completion of the Iowa Farm Bureau membership campaign shows that more than one hundred thousand farmers have joined, and that more than three hundred thousand dollars have been contributed to the working fund of the organization. It is estimated that about fifteen to twenty per cent of the farmers and land owners were not reached during the drive. In some of the counties many townships were hardly touched, and it is confidently expected that by March 1 25,000 more farmers and land owners will be in line which will boost the membership to 125,000. It has been an extraordinary campaign. Nothing like it has ever been put across and it reflects the popularity of the farm bureau movement in all localities where it has been put over in a common-sense, business-like manner, rather than appealing to radicalism and socialism. The newspapers and business men of Iowa have given the movement the most loyal support and hearty cooperation.

A NEW INDUSTRIAL CONFERENCE.

IT is expected that definite action will immediately be taken by congress authorizing the calling of a conference to study at first hand some of the problems of production and distribution of food products and other necessities.

Congressman L. J. Dickinson, of Iowa, has drafted a resolution on which an early hearing has been promised by the house committee on agriculture, and it is expected that immediate action will result.

The resolution requests the President to call a conference, the delegates to which shall represent agricultural labor and capital, including stock raisers, cereal producers, raisers of cotton, producers of wool, persons engaged in

the manufacture of food products, dealers and representatives of the consuming public.

It is held that an argument between these interests would assure the farmer a market and reasonable prices for his cattle or hogs or grain or wool and would do away with fluctuations which work hardship alike to the producer and the consumer.

J. R. Howard, president of the National Farm Bureau Federation, will appear before the house agricultural committee to urge the importance of holding such a conference. A resolution supporting it was introduced by J. W. Coverdale, of Iowa, at the recent national convention of the federation in Chicago and was warmly received.

CORRELATING COOPERATIVE WORK.

THE Oakland County Farm Bureau is settling down to its new lines of work in a business-like manner. One of the most important undertakings of the executive board of that county, which has more than 1,800 members, who have paid the ten-dollar membership fee, is hiring a business manager. His particular line of work will be related to marketing and the improvement of such conditions in every sort of way. Correlating the work of the cooperative undertakings in the county is a task he will immediately take up. It is expected that this correlation of activities will unify buying and selling by the associations and result in considerable saving for their members. Several new cooperative associations will be organized and put on a working basis. This business manager is well known in leading agricultural circles. His name is H. F. Beach. He has served two years as Oceana County Agent, one year as manager of a cooperative association at Hart, and was county agent in Saginaw county when asked to take up the new line of work in Oakland county.

MIDDLEMAN A MODERN NECESSITY.

IN a recent interview G. Harold Powell, general manager of the California Fruit Exchange, said:

"There should be the closest cooperation between a producers' organization and the wholesale and retail trade. The latter are the distributing agents which bring the producer and consumer together, and the span can be efficiently and economically bridged only when there is a mutual understanding of each other's problems. The producer can not deliver his fruit to the retailer without the jobber, or to the consumer without the retailer. There are 2,500 fruit jobbers in America with 10,000 or more traveling salesmen to develop a country business, and 350,000 retail merchants who sell the fruit to the consumer. The producer can not take the place of either. The risk and the cost are both prohibitive. The jobber and the retailer must both add large margins to the selling price of any perishable fruit that is not standardized in grade and supplied to them uniformly, nor can the jobber or retailer create a large increase in consumption by their mer-

chandising efforts alone. The system of trade which gives the widest distribution must be based on uniform supplies of evenly graded fruit backed by national advertising to the consumer. Given these conditions the trade can then specialize on a commodity, display it prominently, advertise it locally for immediate sales results, and make quick turn-overs at a relatively low mark upon the sale price, thereby increasing distribution at a lower distributing cost to the consumer, but with a larger annual profit to the merchant. There should be no antagonism between the producer and the trade—rather there should be the closest sympathetic understanding and a mutual cooperation in meeting the larger problems of distribution."

WISCONSIN SEED POTATOES.

THE first car of "Badger" brand seed potatoes put up in one hundred pound sacks bearing the A. C. A. trade-mark was recently sold at \$4.00 per cwt. The car was part of the exhibit at the American Cooperative Association meeting at Milwaukee some time ago.

Another half dozen or more carloads of Badger Brand grade are in warehouses in Forest county. "Badger" brand is the name of the grade established by the Wisconsin Division of Markets. The potatoes are screened over a two-inch screen for minimum and three-inch screen for maximum size, thereby eliminating overruns. To make this grade the potatoes must be absolutely mature, bright, smooth, well shaped, free from dirt and other foreign matter, frost injury, sunburn, second growth, growth cracks, cuts, scab, blight, soft rot, dry rot or damage caused by diseases, insects or mechanical or other means. In order to allow for variations incident to commercial grading and handling, five per centum by weight of any lot may vary from the range in size stated, and in addition three per centum by weight of any lot may be below the remaining requirements of this brand, but not more than one-third of said three per centum, that is to say, not more than one per centum by weight of the entire lot may have flesh injured by soft rot. Only potatoes coming up to these requirements can be offered for sale under the name of "Badger" brand.

ANNUAL JERSEY CLUB MEETING.

THE annual meeting of the Michigan Jersey Cattle Club will be held at the Michigan Agricultural College, East Lansing, January 14, followed by a banquet in the evening. The following speakers and subjects gives assurance of an enjoyable time:

"The Detroit Milk Commission and the Jersey Cow," by Prof. A. C. Anderson. Prof. Anderson is known from coast to coast as an authority on milk and milk prices.

"Breeding and Raising the Jersey," by H. F. Probert. Mr. Probert has a national reputation not only as a speaker but as a breeder of high-producing Jerseys.

"The Jersey Can Not Live on Her Past; what will You do for Her Future?" by Dr. George A. Waterman. Dr. Waterman is a very forceful speaker and should be heard by all.

Other speakers of renown are Colon C. Lillie, and T. F. Marston.

FACTS ABOUT CANADIAN AGRICULTURE.

THERE are in Canada about 667,000 farms, with an average area of seventy-five acres growing crops. Much additional area is devoted to pasture and ranching. The value of the field crop per farm is, therefore, \$2,174. If to this is added the average value of the dairy, meat and fruit production, another \$1,000 can be added. The dairy production of Canada is at least \$300,000,000, and the meat production probably more. It is rather interesting to note that the United States claims this year a record production of field crops. The value placed on it is \$15,000,000,000. This includes cotton, corn, tobacco. But there are in the United States about 7,000,000 farms of the same average acreage as in Canada, and the value of the crop production per farm works out at about \$2,150. Considering the great advantage of a larger variety of crops, made possible by southern fruit-growing, and warm climate crops, Canada's farmers are holding their own fairly well. The United States Secretary of Agriculture claims that United States crop production per farmer is more than twice as much, in value, as the German, British or Belgian production, more than three times as much as the French and more than six times the Italian. That may hold well enough, so far as comparisons with European countries go, but Canada's million farm workers are producing an average of \$2,000 each. This compares very favorably with the average wage of the Canadian factory worker. The 1917 census showed that the average factory wage was \$775, and even if it now is \$900, the much higher cost of living in the cities leaves the comparison as to net profit from labor clearly with the farm worker.

FOREST PROTECTION POLICY.

FACED by the fact that New York state is cutting from three to five times more timber than is grown each year, and that the vital manufacturing establishments which depend upon unfailing supplies of forest products are migrating to other fields, the Conservative Commission has just made public a rational forest policy for that state, the adoption of which is urged in order to offset the imminent menace of a wood shortage.

Among the first steps advocated is the division of the state into ten forestry districts, each under the supervision of an experienced forester. He would act under the direction of the Division of Lands and Forests of the Conservation Commission in the same way that district rangers in the forest preserve counties now administer their forest areas. In matters relating to forestry, such a man would occupy a place similar to that occupied in agriculture by the farm bureau agents, whose work has been so successful.

Through the medium of these foresters an up-to-date system of forest fire protection would be extended to all forests throughout the state. The Conservation Commission's experience in the Adirondack and Catskill section has proved that by the proper organization of a fire fighting machine, forest fires can be reduced to a negligible minimum. Outside of these main forested regions, however, there is today an enormous annual loss of forest resources from preventable fires.



The Present Wool Situation

THE world wool situation today presents a great many problems. The war left the woolen industry in a very peculiar condition. At present it may be likened unto a ship without a rudder.

No one would have anticipated this situation during the reconstruction period. On the contrary all thoughtful men considered that post-war conditions would be met on a very conservative basis. But instead it seems that the situation has offered opportunities for speculation and, today, there are differences of opinion as to what the outcome will be. Predictions are being made that wool prices will go still higher, while conflicting statements are freely made that prices have reached the top and will very soon go on the toboggan.

Factors Causing Uncertainty.

To illustrate the uncertainty and inability to foresee the future trend, the growers are wondering what they are going to receive for their next wool clip; the manufacturers are very much alarmed at the present short supply of fine wools and are anxious to get available supplies of these grades in order to meet their immediate requirements on contracts already made. Some of the dealers, it is acknowledged, have already taken their profits on their fine wools while others are anxious to know whether their holdings of medium and low wools will show a profit or a loss when interest, insurance, and carrying charges are added to the purchase price.

With all this uncertainty within the trade it would be absurd for the writer to attempt to make a guess at future developments. Every interested person will have to be his own pilot and judge for himself from the facts he is able to obtain.

In a publication on "Prices of Wool and Wool Products," the War Industries Board points out that the prices of commodities consumed or produced in the woolen industry were somewhat higher in 1913 than the average price of all commodities; during 1914, slightly lower. During 1915 and 1916 there was a rise in wool prices much in advance of the general rise of prices, which may be accounted for by the fact that raw wool was difficult and expensive to import. By the end of 1916 prices of other commodities had risen to approximately the same relative position as wool. Except for the fact that wool prices advanced a few months earlier than prices for other commodities, the same relative position continued during the first part of 1917. By August and September, 1917, prices of some of the more important commodities, notably coal, iron, and steel, and wheat had been fixed. Raw wool prices were not fixed until 1918 and the prices of civilian yarns and cloths were never in any way controlled. The increasing scarcity of wool both for military and civilian use in 1918 caused wool prices to rise above the general average of all commodities.

World Demands Fine Wools.

The market for wool since the last clip has been an unusual one as the demand throughout this period has been for fine wools with practically no call for mediums and lows. This situation is not alone confined to the United States, but obtains throughout the world. All of the principal countries with any great amount of textile machinery are clamoring for fine wools. This demand is so unprecedented that the smashing of records for wool prices has been a common occurrence of late, both here and abroad, especially for fine staple wools, the prices for these wools showing a much greater comparative increase over pre-war

At Our Request George T. Willingmyre, Wool Specialist of U. S. Dep't of Agriculture Prepared the Following Survey of the Wool Situation

prices than most other staple commodities. The most optimistic expectations as to the market trend for fine wools have been exceeded, the question of price apparently not having much effect upon users whose chief anxiety seems to be to locate suitable wools, in order to meet immediate requirements, and to get guarantees for prompt deliveries.

Statements have been made by many of the manufacturers that fine wools have gone far beyond their intrinsic value as compared with medium grades and that some adjustment must be made soon to bring the prices of the fine and medium wools more in harmony. The consuming public is partially responsible for the present situation and it is hoped that it will do its share in diminishing demand for finer grades and thereby bring about a change.

Fine Fabrics and the Consumer.

With the increasing public demand for materials of high quality, goods made from medium and low wools have been eagerly sought and quickly sold. There is no reason why fabrics made from medium and low wools should not receive the attention of the buying public, since cloth made from these grades is durable and has satisfactory heat retaining qualities. The consumer's lack of interest in fabrics made from medium wools and their eagerness to purchase fine goods regardless of price, has been the prime reason for the high prices prevailing for fine wools and the comparatively low price for medium wools. A great difference in the prices for wool throughout the world exists, which may be partly due to the unsettled conditions. For instance, some time ago a certain class of fine wools was

has been intimated that some of these wools will be exported to England for sale there.

Trend of Prices for Fine Quarter-Blood.

To illustrate the trend of prices in the United States during the last six years the average price per pound in the grease and the present seaboard market price for fine and quarter-blood wool, with the percentage increase of each are given in the following table:

	Average 1913.	Present Price.	Per Cent Increase.
Ohio fine unwashed			
Delaine	.23	.89	287
Ohio 3/4-blood combing	.25	.67	168

From this it is seen that the fine wool has increased 287 per cent while that of the quarter-blood grade has increased only 168 per cent. In the same period, the general average of all the wholesale prices has advanced about 125 per cent. The quarter-blood grade of wool has advanced somewhat more than the general average of prices of all commodities, while fine wools show even a greater advance. Last year prices for these two classes were more in harmony. The differential in price between fine and quarter-blood is greater now than at any time in the past. This great change in price differential has occurred this year coincident with a great demand for fine staple wools.

The prices for fine staple territory wools in the seaboard market range from \$2.00 to \$2.10 per pound, scoured basis. The prices for territory combings, quarter-blood, scoured basis, range from \$1.10 to \$1.15 per pound. The difference in these prices is con-

recent past. It is thought that manufacturers are exerting every effort to encourage the wholesale clothiers to purchase lower-priced goods made from the medium grades of wool. Samples of these materials are being submitted to the trade. If the pattern and style of these goods are attractive and pleasing to the public, and it buys, it will relieve to a great extent the present demand for fine wools and will permit the present rate of consumption of wool to be maintained.

Large Stocks of Wool in the United States.

The stock of wool in this country at the present time is perhaps larger than ever before. It is estimated that there is a sufficient amount on hand to meet the requirements for at least one year at the present rate of consumption. If such is the case, there may be expected at the end of November next year a surplus equivalent to the total of the coming clip and the importations for the next twelve months. We should not become alarmed at this because this country should always carry a large supply of wool in the form of an available reserve stock in the event of an unexpected demand, as was demonstrated by the unprecedented demand after war was declared.

Proposed Auction Here of British Wools.

One factor in the present situation which may have an effect upon the market is the proposed action on the part of the British government to send to this country large quantities of wool to be sold at public auction. The wool growers are very much alarmed over this procedure and feel that such an undertaking would have a serious effect upon the wool growing industry of the United States. They have made protests to the executive officers of the government and to their senators and representatives against these proposed importations of British-owned wools. It is hoped that they will feel that everything is being done to safeguard the producer's interests, though no law exists that would prohibit this importation and there is no department that has the authority to place an embargo on wool. It will be recalled that since the tariff law of 1913 there has been a free and unrestricted importation of wool into the United States, in times of peace. According to a recent statement by an official of the British government there are sixty thousand bales of wool afloat to this country due to arrive before the first of February. It is estimated that this shipment comprises about seventy per cent of fine and thirty per cent of cross-breeds. It is proposed to sell these wools by auction in Boston some time in January or February and the results and success of the sales will perhaps determine whether any further shipments will be made. In view of the wool policy outlined by the United Kingdom, it is reasonable to suppose that the British wool stocks will be justly distributed among the Allies, neutrals, and enemy countries as far as practicable. Owing to the present rate of exchange it would be to the advantage of the British government to dispose of as large quantities of wool in the United States as is possible without causing a drop in prices.

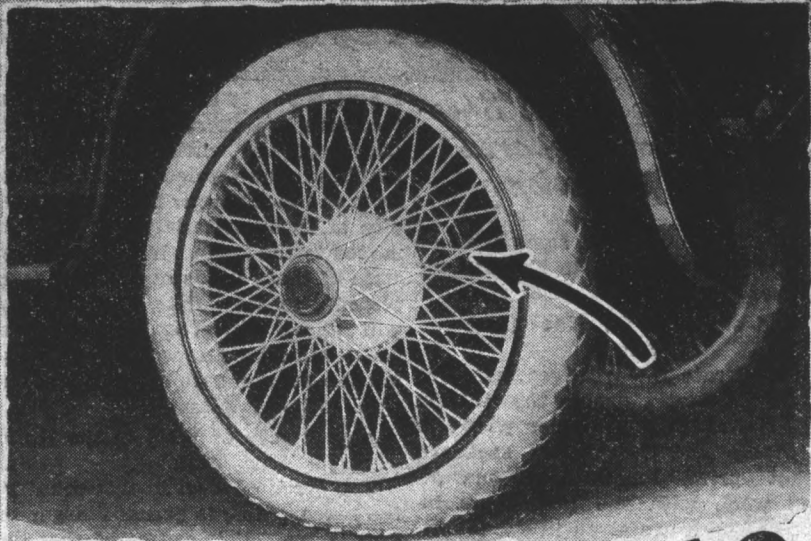
With all these conflicting factors it will be seen that to predict accurately the future market situation on prices is almost an impossible task. The public's demand for certain grades of fabrics, the supply of raw material necessary to produce these fabrics, the importation into this country and the sale of British-owned wools at public auction in Boston, all will have an influence upon market prices in future.



selling in the Boston market at twenty to thirty cents per pound less, on a scoured basis, than the same class could have been replaced if purchased in the country from which it originated. This situation held with both the crossbreds and fine wools, but was more noticeable for the fine staple wools. It has been stated by a well-known English wool merchant that America was the cheapest market in the world for crossbred wools. At a recent government wool auction the operations of an English concern were quite noticeable and large blocks of wool were purchased by that firm. It

clusive proof of the scarcity of fine wool and the great demand already mentioned.

Of late manufacturers seem to be paying more attention to the medium wools and it would seem that in view of the light supplies of the fines that it will be necessary for them to turn to the half, three-eighths, and quarter-bloods, of which there is considered to be an ample supply. Whether the prices for these grades will advance or decrease remains to be seen, but it is evident that the law of supply and demand will regulate prices for medium wools as it did for the fine wools in the



Will they hold?
the most important question for you to consider

The brakes loom up as the most vital part of an automobile, for upon the brakes depends upon your ability to stop, slow down, or "hold" on the hills. Wise motorists are particular about brake lining. They may take a chance with other equipment, but when it comes to the brakes, they use Raybestos.

Raybestos
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Agricultural Representation

In His Address to the State Association of Farmers' Clubs Senator Scully Commends the State Farm Bureau.

WHEN our country was drawn into the great world war, the government immediately placed a guarantee of ten per cent profit over the cost of production for all industrial war commodities. The stimulant that this action on the part of the administration made upon production of war essentials has been too manifest to need further discussion. Quite a contrast, on the contrary, the administration's action toward agriculture. We find that prices were fixed at \$2.20 per bushel on wheat at marketing centers, also government standard of prices fixed on all leading food-stuffs, the cost of production apparently having been given but little consideration to the fixing thereof. But thank God, the loyalty of the American farmer was placed at the breaking test and he was not found wanting, and the true to the tradition of his profession he toiled on regardless of profit, ever thinking of duty to home and country, and now that the great war is over and the tide of industrial unrest is waving the fiery flame of an uncertain future over our great commonwealth, it is my prediction that the farmers of America will hold steadfastly the ship of state sailing the troubled waters through chaos to a satisfactory, well settled and established future.

However, great centers of population have become fearful of the future farmer and his possible power through organization, and have through state and federal legislation endeavored to usurp his powers by denying him the right of "Collective Bargaining." You can readily see what this sort of legislation would mean to the organized farmer of today. Concrete examples are found in the indictment of the officers of the New York and Ohio Milk Producers' Associations. State legislation in New York relieved the situation there and the accused were released, while in Ohio trial is in evidence.

In Pennsylvania and Illinois, bills have been passed to define the organized farmers' status under the anti-trust and restraint-of-trade laws, called "collective bargaining." It is a legislative fight for the rights of the producer to sell the product of his labor at terms that they mutually agree upon.

Governor Lowden, of Illinois, in signing a bill just passed by the Illinois legislature applying favorably to this subject said, "The farmer is dealing largely with the product of his own toil, therefore to admit the principle of collective bargaining as applied to men employed in other industries and to deny it to the farmer, is unjust discrimination."

The issue has also been raised in congress. While recently in Washington representing the Michigan State Farm Bureau at a national conference of the National Board of Farm Organizations, it was my good fortune to hear this subject ably discussed by Senator Capper of Kansas, and the senator has since introduced an amendment to the Clayton Anti-Trust Act, which if passed will definitely clarify the construction of the act as far as the farmer is concerned.

The question now is, are the farmers sufficiently organized to back up their demands for justice and fair representation, in state and national affairs.

The three great farmers' organizations in Michigan, the Grange, Gleaners and Farmers' Clubs, for years past have worked individually for the betterment of agricultural conditions

but could not accomplish much. However, light dawned upon the hazy minds of the leaders of these organizations and in the very early part of this year, the legislative committees of these three greatest agricultural organizations amalgamated for united effect. "Great oaks from little acorns grow," likewise wonderfully effective results have begun to materialize from this cooperative movement. The leading papers of the state through their press representatives, dubbed this amalgamation as the "Big Nine," and the result of their meetings held from time to time during the session of the past legislature and their suggestions and effect upon that body were watched with eagle eyes of scrutiny by the press and the stories that appeared regarding their deliberations was accepted by the farmers of the state as logical and constructive. All legislation was not by any means secured that was proposed or endorsed by this so-called "Big Nine." However, none could deny that its effect was not pre-eminently manifest in the interest of agriculture throughout the entire session and much sane, safe, constructive legislative suggestions were offered for a guide to the farmer members of the legislature.

This, however, is but state affairs. A national matter is quite another question. We now have at least three outstanding organizations of national prominence representing farmers' national legislative interests. First, the National Grange; second, the National Board of Farm Organizations, and third, the so-called George Hampton organization, all with a separate headquarters in Washington and all attempting to do a service to agriculture and all are commendable in their efforts, but lack sufficient finance to place the great cause which they propose to represent upon a level with other great industries. They appear to be a much needed spoke in the wheel, but apparently lack the hub.

Why should not the farmers have an organization that will attract the attention and respect of all industries and ally all agricultural interests under one head, focus all our activities in one headquarters and lend the effort of all subsidiary and auxiliary organizations toward this one potential head, the same as all auxiliary industrial organizations combine under the National Board of Commerce.

At the present time there appears to be one such organization for agricultural interests, viz., the State and National Farm Bureau. This organization is growing at a tremendous rate and is well past the experimental stage in several states. The organization is founded on good business principles and its members propose to support it in such a financial manner as to do justice to the cause which it represents.

Many do not readily comprehend that any great industry, regardless of what nature, can be fostered, strengthened, or even boomed, by favorable legislation to its cause, or likewise any industry can be readily retarded, discouraged, or even crippled beyond rebuilding by unfavorable legislation affecting its interests.

Such is the law of the land under the constitution of a great republic like ours. The existing rights of all, individual or corporate, undisputably far excels in favor the legal rights of sovereignty conferred by any other country upon its subjects.



DEED TO TOWN FOR ROAD.

I sold a strip of land to the town for a road. The deed was not drawn up on legal paper, nor recorded nor signed by my wife, and I have returned the money. The board refuses to move the road. Is the deed valid?—C. P.

It is not necessary that the deed be on legal blank. Statement of the name of the buyer, the seller and the location of the property and the interest intended to pass being signed by the seller and sealed, is sufficient when accompanied by delivery and possession without witnessing, acknowledgement or recording, and the return of the purchase money after the transaction is closed is of no consequence. Land cannot be traded back and forth merely by handing back the money. There must be a re-conveyance. Moreover, the conveyance being made to the town for a road, needs no deed of any kind, as land can be transferred to the public for highway purposes by dedication without any writing at all. All that is necessary is that the owner, by words or act, donate the property to the public for a highway and that the donation be accepted by the proper officials and possession of the road taken by the town.

There is, however, a point not mentioned by the writer, which might be involved in this case. No transfer or conveyance of a homestead interest is valid in this state for any purpose other than to secure the purchase price unless the same be by deed signed by the wife interested in the homestead. (Compiled Laws 12889). J. R. R.

FARMING ON SHARES.

I put in five acres of potatoes for a neighbor, each furnishing half the seed. Nothing was said about what share I was to have. I dug all the potatoes and put them in the barn. When we sold I went to settle up and he wanted half the potatoes. What would be right?

SUBSCRIBER.

The question speaks eloquently. It is better to make the contract before the work is done. Both of these parties have a perfect right to put themselves and the other party to the expense of a lawsuit. Aside from that any neighbor can give him as good advice as a lawyer.

JOHN R. ROOD.

LIABILITY OF EXPRESS COMPANY.

If a shipment by express is not received by the consignee, is the express company liable for the shipment and if so what proceedings should be taken? The consignee reports never receiving shipment. I put in a claim, delivered them my receipt and have had no reply. P. M.

Pressing demands through the claim department of transportation companies is slow and discouraging, often requiring a year or more and the results are not then always satisfactory. On the facts stated the express company is unquestionably liable, and a summons from a justice of the peace would be likely to produce quick results.

JOHN R. ROOD.

REMOVAL OF ENSILAGE BY A TENANT.

Has a party a right to sell from the premises ensilage, when his contract requires all cornstalks to be fed on the premise?—G.

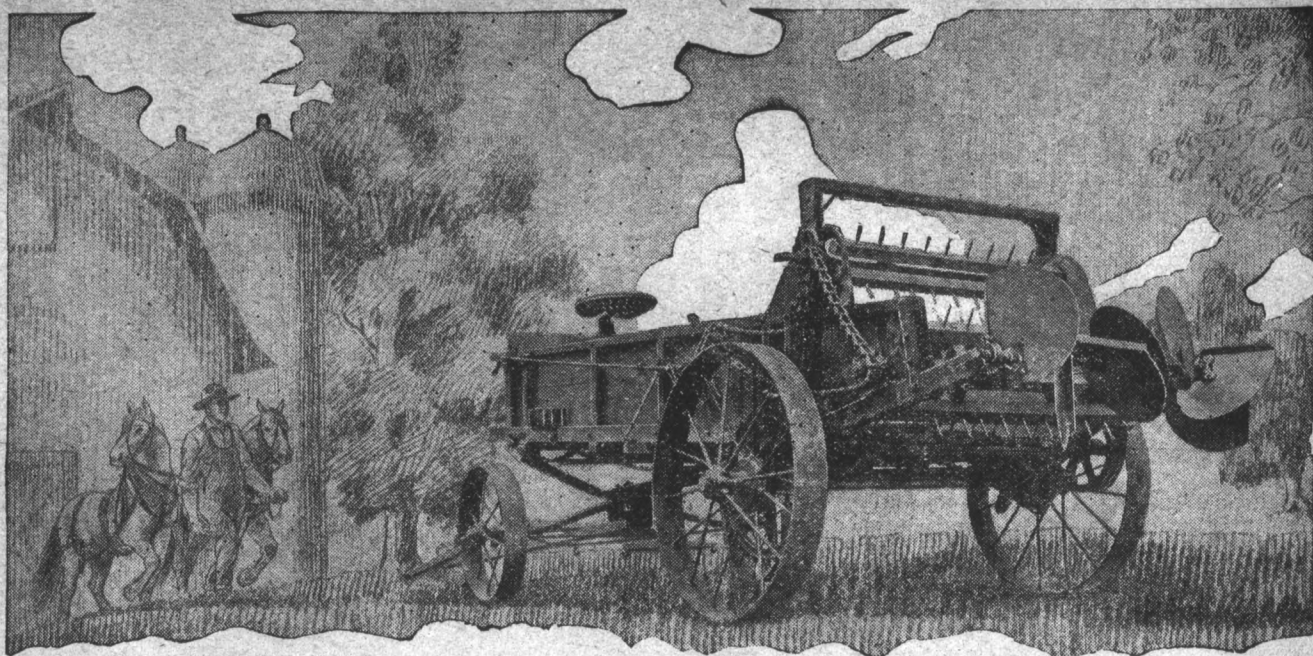
The substance of the question is whether the contract can be avoided by running the stover through an ensilage cutter into the silo. Our guess is that it could not. J. R. R.

FARM LIFE.

If a man has a farm—pleasant place, on road close to town—and wants to live on farm but wife objects, on account of being set up by her folks not to live there, what can he do?—F.

We cannot answer the question.

J. R. R.



Safeguarding Your Prosperity

ALWAYS remember:- Your soil is your farm. As you look out over your broad acres, bear in mind that your measure of farm prosperity is dictated by those few inches of fertile soil-depth that feed your animals and bear your crops.

Your soil is your farm—and if this soil could talk to you, the first word of its cry would be "FOOD!" Regular feeding of nature's greatest soil food—manure.

Are you efficiently safeguarding your prosperity? Do you fully appreciate that this greatest soil-sustainer is a perishable product—and that unless it is spread evenly and uniformly, it cannot possibly do its best work for you?

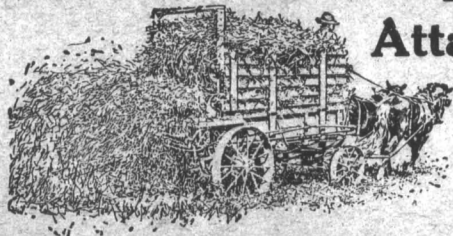
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planters have a special attachment for mixing the fertilizer with the soil. If you have one, be sure to attach it. If fertilizer is applied broadcast, sow it evenly. Fertilizer should not be applied to grass or grain that is moist. Apply around, and not on, other plants.

Our Service Department

RATION LACKS PROTEIN.

How do you regard the following mixture for grade cows producing 30 pounds of milk daily? One hundred pounds of ground oats, 100 pounds of ground rye, 200 pounds of wheat bran. Bran at \$2.40 per cwt., and oats at 80 cents per bushel, rye at \$1.45 per bushel. Can get cottonseed meal at \$4.00. The roughage consists of silage, not very rich in corn, cornstalks, timothy hay and oat straw.

Allegan Co.

C. E. W.

If you had clover hay instead of timothy hay in the roughage I would say that your mixture of grain would be all right and would make you a fairly good ration, but with timothy hay I would advise that you feed two pounds of cottonseed meal or two pounds of oil meal per day to each cow and then feed two pounds less of oats, rye and bran mixture. A good rule is in feeding grain to feed a pound of grain for every three or four pounds of milk which the cow produces in a day. For instance, if a cow gives thirty pounds of milk a day, if she gives over four per cent milk she ought to have ten pounds of grain, that would be two pounds of cottonseed meal or oil meal and eight pounds of the other mixture.

C. C. L.

DAMAGE BY STOCK LINE FENCE.

My neighbor's part of the line fence is out of repair and he has leased the land to a tenant whose crops were injured by my cattle getting through my neighbor's defective fence. The tenant claims that I must pay him and look to my neighbor for reimbursement. How is it?

SUBSCRIBER.

If there has been a proper division of the line fence and the inquirer's cattle got through because the fence was defective and through that part which the neighbor was to repair, the tenant is in no better position than the man from whom he leased. If the tenant has any recourse it is against the owner. If this were not so, the line fence law could be nullified by leasing the land to somebody else. J. R. R.

INCOME TAX.

Is there any deduction on the income tax for a tractor and truck bought to help produce crops, or allowance for personal services?—L.

The tax is on the net income, but whether from investment or personal services is immaterial. The income is the amount received less the cost and expense, which would include the amount paid for hired help, but no deduction could be made for the services performed by the taxpayer himself as that is also income. Depreciation on the plant and cost of maintenance could be deducted as they are part of the expense. J. R. R.

SAWDUST FOR BEDDING.

I have an opportunity to purchase sawdust for bedding at one dollar a load. What is your opinion of the use of this material? Will it injure the soil? Is the sawdust from hardwood as valuable from a fertility standpoint as sawdust from softwood? It is my purpose to use the material for bedding dairy cattle and horses.

I. J. L.

Straw is the universal litter, and there are few better, but there are seasons in which the supply is short and it may then be advantageously supplemented with sawdust. Indeed, used alone dry sawdust is quite satisfactory. It is clean and easily handled, but is particularly valuable for its high absorbent power for liquids, which is two

to three times that of ordinary straw. It is not rich in plant food constituents, but its subsequent decomposition in the soil gives rise to much humus-forming material. It should be used in sufficient quantity to absorb completely all the urine.

There is a more or less general impression among farmers that manure from stables and cow barns in which sawdust has been used as a litter is injurious to the land. While we would not say that this suspicion may not have some foundation, we have never been able to discover a single instance of such injury, and inquiry has been made in this matter. Such injury could only occur on very light soils following very heavy applications. Most satisfactory evidence has been obtained from many farms upon which sawdust has been used as a bedding material for a number of years, and upon which the soil is light and sandy. Naturally it is on heavy soils that this class of manure proves most effective.

One word of caution is necessary. Horse manure from stables using sawdust heats very rapidly, especially if left in the pile, and the excessive fermentation that may take place will seriously injure the manure. Such manure should be mixed with that from the cow barn, which can readily be managed when manure carriers are installed and a manure spreader used. Mixed manure (horse and cow) may be handled in the same manner as that made with straw. The saturation of the sawdust with the liquid excreta promotes the ready decomposition of the litter under favorable conditions of temperature, and the best place for this to take place, in order that the full manurial effect may be obtained, is in the soil. If the manure cannot be spread at once, the heap should be kept moist and compact, as in the case of manure made with straw.

The sawdust of hardwoods, decomposes more readily and further is richer in potash and phosphoric acid than that of pines and conifers generally, but no harm due to resistance to decay need be feared from the use of the latter, provided that it is not employed in larger quantity than is sufficient to absorb and retain the liquid excreta. W. M. K.

PROMISED BONUS.

Last spring I made a bargain to work for a man for a certain amount. Later he said that when the hogs weighed 200 pounds he would give me one. Now he does not want to do it unless I work for him for another year, which I do not want to do as I can get better wages elsewhere. Can I compel him to give me the hog? F. H.

A promise to make a gift in the future is not enforceable. Even a promise to pay a bonus to a man to induce him to perform his contract is not enforceable for there is no consideration to support the promise. By the promise the promiser gets only what he was before entitled to. J. R. R.

TOWN'S LIABILITY FOR SHEEP KILLED.

So many sheep were killed by dogs in our township last year that the money available for paying sheep claims would only pay half of the claims. Will the town board be compelled to pay the balance out of the tax collected this year?

When claims for sheep killed are allowed warrants issued on the treasurer, the several claims are paid in proportion and the balance carried over to the next year, year after year until the full amount is paid. J. R. R.



CROPS FOR MUCK LAND.

I have two acres of muck land that I have just plowed for the first time. I had thought of working this land thoroughly in the spring until time to plant late potatoes and then put it to potatoes and mangels. Would you advise growing these crops on this muck land the first season or would some other crop be better? If so, what crop would you advise? This land is now plowed about seven inches deep.

Clinton Co. P. E. M.

There is a common belief that potatoes will not do well on muck. The fact is that potatoes are profitable on well-drained and properly fertilized muck soil. The high land rules for time of planting, of course, will not apply. The best time to plant potatoes on muck is just about a week before the last frost is expected in the spring, and then hope that they will make a sufficient growth before the first frost in the fall to be profitable. In this last season, which was quite unique as far as freedom from frost was concerned, large yields of potatoes were obtained on some of our muck areas.

Contrary to the popular belief, muck potatoes are of good quality if they are grown on properly-drained muck. Of course, they will become soggy on wet muck land in exactly the same way that they will become soggy on wet high land.

Mangels are a pretty sure first crop on muck. I would say that the mangel is not used enough by muck farmers. As a feeding crop on small acreages, carrots have been successfully grown as a cash crop, and, of course, beets, when the muck is properly prepared, are especially profitable. All of the root crops of this type are of great value to all muck farmers, who are troubled with frost. The mangel is especially valuable for stock feed, and will make a very large tonnage if given the slightest attention.

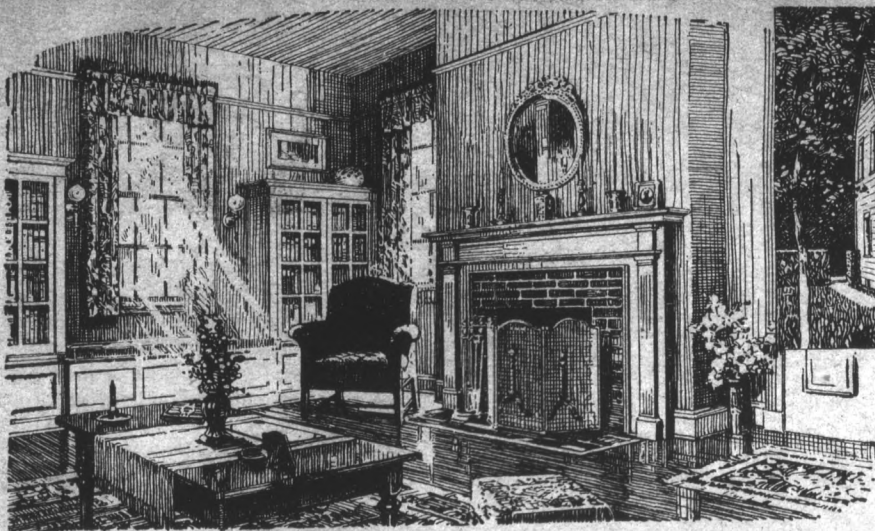
In considering a crop for the first season on muck, we try to get such a crop which will smother out the weeds or which will allow for cultivating and breaking up the soil. Now the mangels accomplish the same as a cultivated crop in the respect that in growing down into the ground, the root and its branches penetrate throughout the top layer of the soil and thus hasten decomposition. The tops grow luxuriantly and so smother out a great deal of the weed growth. It is important in this connection to note that at least one careful hand cultivation is necessary in order to give the mangel tops a chance to grow well. Potatoes will accomplish the same thing. By cultivating and by stirring the soil between the rows, we hasten the decomposition and thus prepare the muck for the next crop, so that these are best.

Of course, mucks differ, the same as high lands differ, and the type of muck is very important in answering this question. Unless the muck is well-drained, I would not try these crops, but would seed it to alsike and timothy, and the outlook is for a high price for hay for some time, so this would be no means be an undesirable crop to plant.

Some of the other things that can be considered, provided the muck is well-decomposed and firm, are oats, millet, and buckwheat. Millet and buckwheat are two of the very best crops for subduing the muck, but, of course, one is taking a chance with buckwheat on muck, considering the frost. If the muck is of the well-decomposed type and well-drained, one could consider corn interplanted with soy beans for the silo.

I would be very pleased to answer this question further if the questioner will send me the details of his conditions.

EZRA LEVIN.



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We urge early ordering because we know that when spring comes orders will be sent us in such tremendous quantities it will be difficult to make shipments. Your shipment will be on your farm when you need it if you order NOW—if you delay you take the chance of being delayed.

Another Special Offer

Thru a special arrangement with the John Deere Plow Company, we are able to offer the Van Brunt Lime and Fertilizer Sower for shipment from stock which we maintain at Sibley, Michigan.

We shall be glad to give full details about the John Deere Van Brunt Lime and Fertilizer Sower and about this special service of ours to you, upon request.

SOLVAY PROCESS COMPANY
JEFFERSON AVENUE DETROIT, MICH.



Three Plant Essentials

CUSHMAN

Light Weight Farm Motors

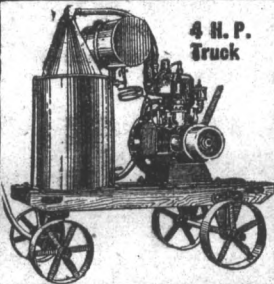
Weigh only 40 to 60 pounds per horsepower, about one-third as much as ordinary farm engines, yet are more powerful, more durable, more economical.

We get increased power without increased weight because of an improved design, better material, higher grade mechanics, more accurate balancing and improvements in carburetion, ignition and lubrication.

Cushman Motors do every job that any other engine can do and many jobs other engines cannot do. Equipped with Throttling Governor, Carburetor, Friction Clutch Pulley and Water Circulating Pump without extra charge.

4 to 20 H.P.

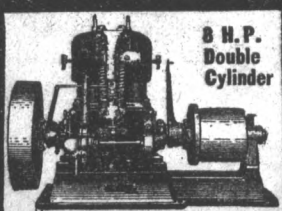
Write for book on Light Weight Engines
CUSHMAN MOTOR WORKS
826 N. 21st St., Lincoln, Neb.



4 H.P. Truck

Cushman "Does More" Electric Light and Power Plant

It does more for the farmer than any other outfit—combining both an Electric Light Plant and a Portable 4 H.P. Power Plant, at practically the cost of an electric light plant. Equipped with the famous Cushman Engine and Cushman Self-Starter. Ask for Book on Light Plants. (310)



8 H.P. Double Cylinder

More Power per Pound

GOOD LIVE STOCK

The Enduring Basis of Permanently Profitable Farming

War-born booms with accompanying fancy prices for grain may tempt us to put the plow through rich blue-grass sods that represent the work of many years.

Don't do it. FEED the land—don't rob or STARVE it.

It is in the midst of surroundings that indicate the presence of knowledge—which is power—in the handling of farm problems that you will invariably find THE BREEDER'S GAZETTE.

To be a member of a "BREEDER'S GAZETTE CLUB" in any community is to establish at once the fact that you are studying your business and keeping yourself—and your books—posted right up to date. If you do not belong to one, why not join now? The "dues" are but \$1.50 a year, \$2.50 for two years, \$3.25 for three years, or \$5 for five years.

See local agent or write for a sample copy and a catalog of the best books for the farmer's reading table. Address THE BREEDER'S GAZETTE, Room 1125, 542 So. Dearborn St., Chicago

Orders received before Jan. 1 can be commenced with our issue of Dec. 11 containing report of International Live Stock Exposition, and includes the beautiful 148-page Holiday Number as well.

BREEDER'S GAZETTE



Sanders Publishing Company, Chicago, U.S.A.

Best Treatment for Four-Year-Old Asparagus Bed

How would you advise me to treat a four-year-old asparagus bed?

SUBSCRIBER.

THE treatment which will be best for a four-year-old asparagus bed depends largely upon the former care the bed has received. The asparagus plant will respond to very liberal feeding and should have available an abundance of soil moisture at all times. To supply the two outstanding needs requires a soil which is well filled with organic matter as well as liberally supplied with plant food.

A four-year-old asparagus bed which has not been well fed will need very liberal applications of manure and commercial fertilizer and the roots can not be brought into good productive condition in one season.

Assuming that the bed in question, which is on a sandy loam soil, has had fairly good cultivation and feeding, the treatment next season should include the application of ten to fifteen tons of well-rotted manure per acre early in the spring. This application should be made before any growth of asparagus shoots start so that the manure can be disked into the soil. The manure should be spread evenly over the surface preferably with a manure spreader. In addition to the manure from one-half to a ton of complete commercial fertilizer carrying two to four per cent nitrogen, eight to twelve per cent phosphoric acid, and as much potash as can be secured up to eight per cent, can be used profitably under most conditions. The fertilizer should be applied broadcast before cutting begins and worked into the moist soil.

After the cutting season is over another application of manure and commercial fertilizer should be made. There is no danger of applying too much to a bed which needs feeding badly. When the soil is in fairly good condition ten or fifteen tons of manure and at least a half-ton of commercial fertilizer of the formula previously recommended should be applied.

As liberal feeding as recommended is no doubt more than most growers in Michigan are in the habit of giving, but growers in other states have found it a profitable practice. When other conditions are satisfactory for the growth of the asparagus crop there is no reason why the use of such quantities of manure and commercial fertilizers should not prove profitable.

When it is possible to secure sufficient quantities of manure to supply needed organic matter, as well as plant food, the organic matter can be supplied by the use of cover crops. The cover crops which will be best to use are those which do best in the section in which the asparagus beds are located. When possible leguminous crops, such as cowpeas, soy beans, vetch, or mammoth clover, should be used. Oats can be used in some cases to good advantage but should not be used when the other crops named can be grown successfully. The cover crops should be sown between the rows of asparagus plants after the plants have had time to develop to full size after the cutting is over. The seeds for the cover crop should be sown early enough to give the plants time to make good growth before frost, but not so early that the cover crop will rob the asparagus of needed soil moisture during a drought period which frequently occurs in some sections during July or August. The cover crop should be disked into the soil either in the late fall or early spring. If weeds are permitted to go to seed among the cover crop plants it may be advisable to cut and burn all top growth. Much of the benefit derived from cover crops will be

lost when this is necessary, and thus an effort should be made to prevent weeds going to seed.

An asparagus bed when well located on congenial soil and properly fed and cultivated, should give a very good annual net return for many years. A poorly managed bed will give little or no net return and may prove an actual expense.

C. W. WAID.

SHREDDED CORN FODDER FOR ROUGHAGE.

Please give me a ration of grain feed to go with shredded corn fodder. I have corn, barley, oats and wheat bran.

Shiawassee Co.

A. B.

Shredded corn fodder does not give a sufficient variety of roughage for cows. You can get along without it but you have got to feed pretty liberally of grain and the grain ratios should contain a large per cent of protein. I would suggest that you mix your ground barley, oats and wheat bran in equal parts, that is, say one hundred pounds of each, and besides this you feed two pounds of oil meal to each cow per day and then feed a sufficient amount of barley, oats, and wheat bran mixture with oil meal to make a pound of grain per day for every three or four pounds of milk which the cow produces.

C. C. L.

LINE FENCE.

My neighbor works part of his land but the forty adjoining me is timber next to the road, and unenclosed. The neighbor gets firewood and sawlogs from it every year, and makes sugar from the maples there every year. Can he be compelled to build half of the division fence?

O. H.

There is no common law obligation to maintain partition fences, and the statute of this state extends only to enclosed lands, and therefore, this sugar-bush being unenclosed along the highway, the owner cannot be compelled to build any part of the line fence adjoining.

J. R. R.

SALE ON WARRANTY.

A year ago I gave my note to a dealer for a tractor, he saying that if it did not prove all right he would take it back and give me my note. It has never given satisfaction to me anyway, but the dealer will not take it back. What can I do?

SUBSCRIBER.

If the above statement can be proven to the satisfaction of the jury no recovery could be had on the notes by the person to whom they were given nor by anyone else not a purchaser before maturity and without notice.

J. R. R.

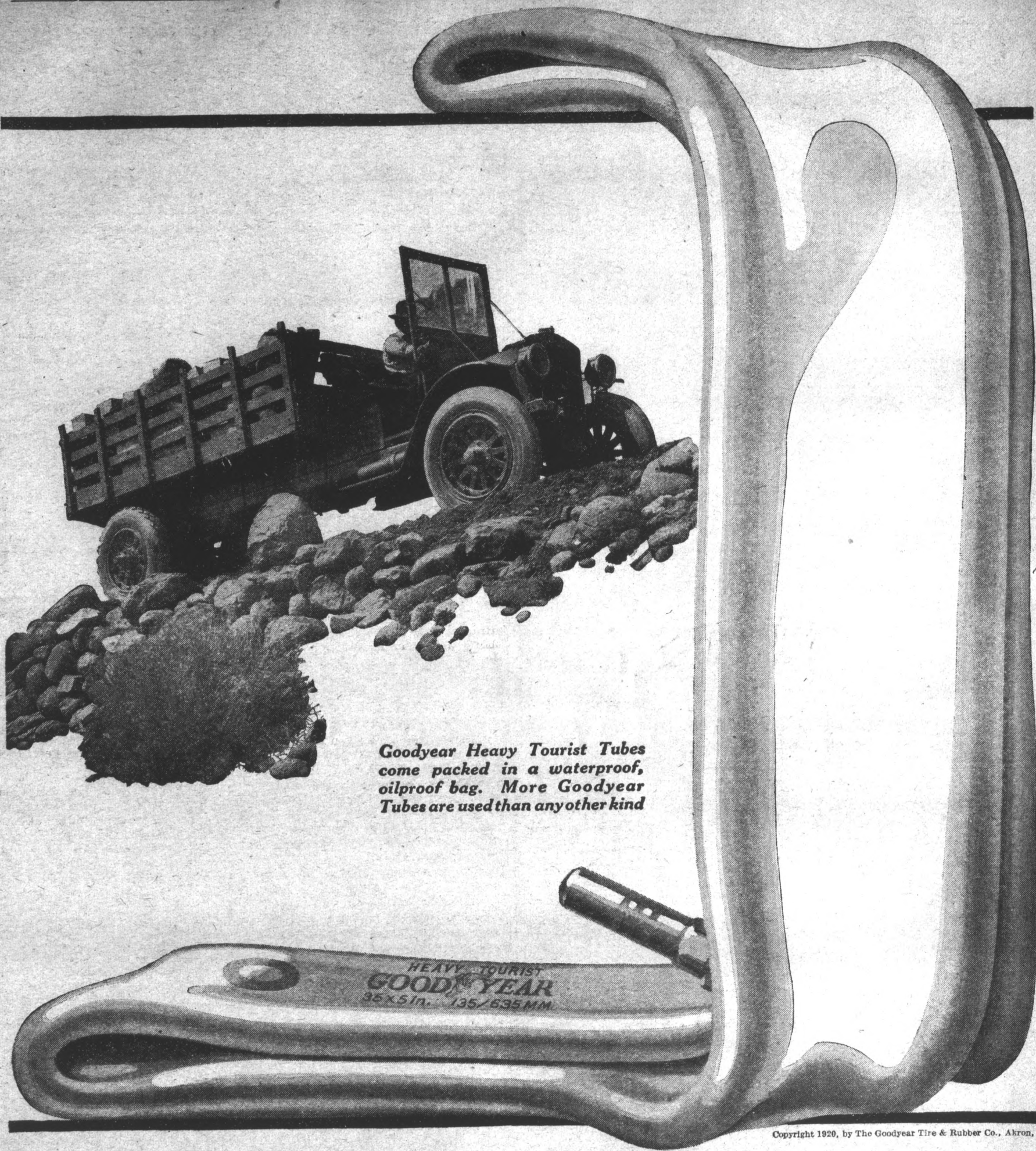
LAND CONTRACT.

A. sold a farm to B., who paid one-sixth of the price, the rest to be paid in annual installments with interest. Should B. give a mortgage in connection with his note and could A. sell the mortgage?—S. A. H.

The question shows that the inquirer contemplates drafting the papers in connection with the sale without assistance of any person skilled in such matters. No person can afford such a risk for the small fee saved. Whether a land contract without a deed, or a deed and mortgage back are employed in such a transaction depends on the agreement of the parties. Either way will do, but when the payment is small a land contract is usually preferred because it takes less time to foreclose in case of default. In either case the seller can deed his remaining interest subject to the land contract interest of the buyer, or may assign the mortgage.

J. R. R.

Please Mention this Paper When Writing to Our Advertisers



Goodyear Heavy Tourist Tubes come packed in a waterproof, oilproof bag. More Goodyear Tubes are used than any other kind

Copyright 1920, by The Goodyear Tire & Rubber Co., Akron, O.

Three Goodyear tubes traveled on their original air all the way from Boston to San Francisco with the Goodyear Transcontinental Motor Express. What tribute to their reliability and staunchness! Goodyear Heavy Tourist Tubes for passenger cars, like the larger tubes for trucks, are made of pure gum strips, *built up layer-upon-layer*. They cost but little more (an average of sixty cents) than tubes of less merit. Surely it is false economy to risk, for so small a sum, a costly casing.

GOODYEAR

Belgian IMPORTED MELOTTE

Jules Melotte—"The Edison of Europe"—has again placed his **Great Belgian Melotte Cream Separator** on the American market and is continuing his pre-war offer to the American farmer. **Free Trial—Small First Payment—Easy Terms—Duty Free.**

You, who have wanted the world's greatest separator, write for catalog right away. Find out why 500,000 Melotte Separators are in use today. Read how in England, where every penny must be saved, more Melotte Separators are in use than all other makes combined. Before buying any separator find out how the Melotte has won 264 International Prizes and every important European contest the last 16 years. Mail coupon now for our great offer.

\$7.50

**After
30 Day's
FREE
TRIAL**

You are not to send one cent until you have used this Great Belgian Melotte on your own farm and thoroughly made up your mind that it is the separator you want to buy. Keep it for 30 days—use it just as if it were your own machine. Test the wonderful Melotte.

Self-Balancing Bowl

See why this bowl can't vibrate nor get out of balance—why it can't cause currents in the cream—why it can't re-mix milk with cream. Compare the Melotte Separator with any other—test them side by side. See for yourself which works easiest—which is most profitable—which operates at least expense—which is most sanitary and easiest to clean. Then send your skim milk to the creamery—let them prove which separator skims the cleanest.

Easy Payments After 30 days, when you are completely satisfied that the Belgian Imported Melotte is, by far, the best cream separator to be found any place in the world (a big statement, but true), then send only the small sum of \$7.50. Settle the balance in small monthly payments. The Melotte pays for itself from your increased cream checks. Mail the coupon now—today.

Send Coupon Valuable Books Free

In addition to the Melotte catalog we will send you **absolutely free**, "Profitable Dairying," a practical, common-sense treatise by two of America's foremost dairy experts. This text-book tells everything about dairying—how to feed and care for dairy stock—how to make more money out of your cows. Get these valuable books free.

THE MELOTTE SEPARATOR
H. B. BABSON, U. S. Manager
Dept. 3921, 2643 W. 19th St., Chicago



DUTY FREE

READ! Easiest to clean. Few plain discs, all alike, go back in bowl in any order. Bowls are **PORCELAIN LINED**. Has smooth, rounded surfaces—no crevices. Easy to clean as a China plate. Can trust. One-half less fireware to clean. Easiest to turn. We guarantee that the 600-lb. capacity Melotte turns easier than any other Separator of 500-lb. capacity. Bowl spins 25 minutes after you stop cranking unless you apply brake. No other separator needs a brake.

THE MELOTTE SEPARATOR, Dept. 3921, 2643 W. 19th St., CHICAGO
H. B. BABSON, U. S. Manager
Without cost to me or obligation in any way, please send me the valuable book, "Profitable Dairying". Also send me the Melotte Catalog which tells the full story of this wonderful separator and M. Jules Melotte, its inventor.

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Ellsworth

Sheepskin-lined Coats
and Leather-lined Vests

are made according to fur-coat makers' methods and standards and are tailored and shaped to insure accuracy of fit and comfort.

**Warmth
for work
or dress
use**



You'll feel the difference the minute you put them on. More comfort under the arms and around the neck, better fitting sleeves, etc.

And notice the style in the two models shown! That's only possible in coats made the Ellsworth way.

The skins we use are carefully selected and tanned by our special process which leaves them unusually soft and pliable. Collars are large and high. Choice of Wombat, Natural Muskrat, Australian Opossum and Raccoon. Ellsworth coats come in a variety of styles—to suit your particular needs.

If your dealer cannot supply you, write us.
ELLSWORTH & THAYER MFG. CO.

Fur Coat Makers for 40 years
Dept. 24 Milwaukee, Wis.

Mention The Michigan Farmer When Writing to Advertisers

A RATION FOR DAIRY CATTLE AND FATTENING STEERS.

I have a herd of purebred Jerseys, cows and heifers, cows fresh or coming in before New Years. I have lots of first-class silage, nice bright stalks that are now in the barn and will be shredded soon, barley and oat straw, and a small amount of mixed hay for rough feed. Have barley, oats and corn of our own and can buy cottonseed meal at about \$80 per ton, and wheat bran for \$54, or near that figure. Do not know the price of oil meal but presume it is in proportion to that of cottonseed. In feeding the roughage I have, with the minimum of hay, how would you advise mixing the above grains, prices and results considered? Also, with the same feed of roughage how would you feed or mix the grain for steers, feeding to sell in March or April, and weighing around nine hundred pounds?

Livingston Co.

B. N. H.

While the feeding stuff in your roughage ration is all good it is deficient in proteins. To get the best results a liberal amount of protein must be added in the concentrate or grain portion of the ration. Barley, oats and corn do not contain a sufficient amount of protein to balance this roughage, in fact they are deficient in themselves, consequently it would be proper for you to purchase cottonseed meal or wheat bran or both, and in my judgment it would pay to buy both, especially for dairy cows. I do not think a cow ought to receive over two pounds of cottonseed meal a day and I would mix wheat bran in equal parts with barley, oats and corn and then feed each cow, including the two pounds of cottonseed meal, a pound of grain for every three or four pounds of milk which she produces in a day.

For fattening steers it is not so necessary to limit the cottonseed meal. You can gradually work them up to four or five pounds of cottonseed meal a day if you choose to do so and you will get splendid results. Corn and oats ground together and mixed equal parts with cottonseed meal could be fed very satisfactorily to the steers, and it would be all right to add bran and barley to this ration if it cheapens it any. The steers should be gradually worked up so that you can feed them all the grain they will eat up clean if you want to get rid of them in March.

As your hay is limited I think it would be better to feed a small amount each day during the whole winter than to feed a full ration and then have to do without it entirely, because this helps out the palatability of your roughage rations. It is not necessary to feed the shredded corn fodder or oat straw extravagantly. Feed them what they will eat up clean and they will do just as well. C. C. L.

COLOR OF JERSEYS.

Is there a distinct breed of cattle known as Black Jerseys?

Osceola Co. J. H. L.

No, there is no distinct breed known as black Jerseys. The color of Jersey cattle is fawn and white and they vary very much in their markings. Some Jerseys have quite a large amount of white; most of them, however, only have white markings in the face and on the legs and belly and flanks, but now and then you find one with perhaps half of the body white.

Fawn color varies much in its shade. It is called fawn and varies from light fawn to a dark, mulberry fawn, almost a black, and yet if you inspect it carefully you will find that black is not a Jersey color—it is dark, mulberry fawn. Some families of Jerseys have been bred so that there are very few if any white markings. For instance, Philip Dauncey of England was very particular; he discarded every animal with any white and the consequence was that after years he produced a herd without any white markings. Other breeders pay little attention to this and have a great many broken colors

in their herds. For the best development of the breed, in my judgment, no attention should be paid to the white markings, but rather to economical production, and for my part I don't object to white markings—they are distinguishing characteristics.

Then again, families of Jerseys that have been in the hands of men like Phillip Dauncey who paid a great deal of attention to the color, run almost entirely dark or mulberry fawn, while other families and herds have light fawn predominating as a color.

The French-Canadian breed of dairy cattle resemble Jerseys very much in type. In fact, they originated in the same way that Jerseys did, being descendants from the cattle of Normandy in Northern France. The Normandy cattle taken to Canada and bred there until they became a distinct breed and known as French-Canadian are almost invariably black or a dark, mulberry fawn, but they are not Jerseys, they are French Canadian.

C. C. L.

NOT ENOUGH PROTEIN.

I want advice on feeding dairy cows. I don't know how to make up a balanced ration from the following feeds: Good mixed hay, corn fodder and wheat straw for roughage, and ground corn and oats for grain. I feed the different roughage and one pound of grain to three pounds of milk produced by each cow, but do not seem to get good results. What would you advise me to do to make up a better ration?

Mecosta Co.

F. B.

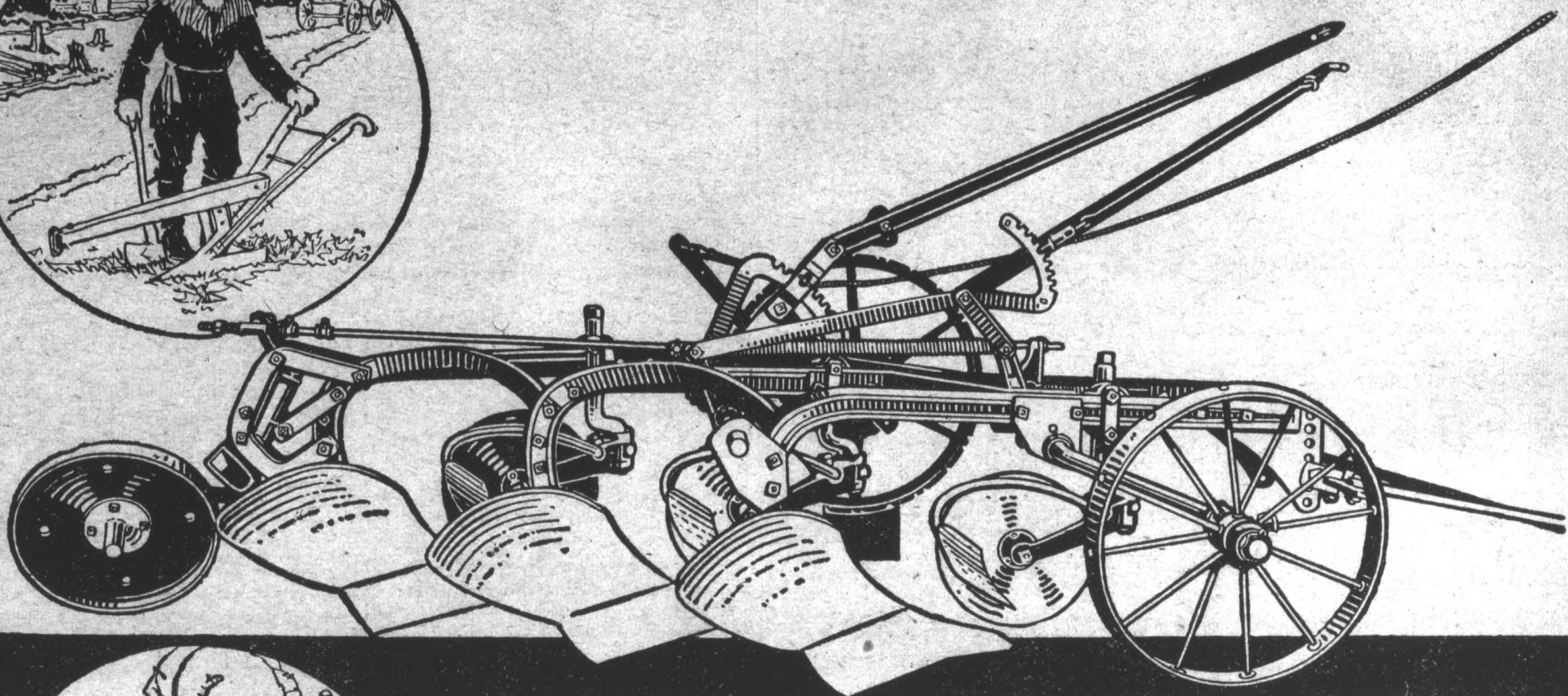
You haven't one single food in the ration rich enough in proteins so that a cow could do her best, without eating a sufficient amount to produce a waste of carbohydrates. No, your ration is not a balanced one.

There is no mystery about a balanced ration. Careful experiments in actual feeding tests have shown that a cow giving milk should have not only a certain amount of food ingredients but that these food ingredients be in certain proportions.

The standard ration is two and one-half pounds of protein, thirteen pounds of carbohydrates and half a pound of either extract or fat. This, you understand, is the digestible ingredients, not the analysis of the food, but that part of them which is digestible, and this is a ration for 1,000 pounds live weight. If a cow weighs more than 1,000 pounds then she should have in proportion more proteins, more carbohydrates and more fat. Now in making up rations we figure the amount of digestible products in all the different foods that enter into the ration and add them together, also the carbohydrates and the fat. If the protein does not amount to two and one-half pounds per 1,000 pounds live weight, then some food richer in protein must be substituted for some of the other foods in the ration so the cow may have an adequate supply.

To one familiar in compounding rations, it is not necessary to figure this out mathematically correct in each instance, because one who has studied this subject carefully knows practically the analysis of different foods and can tell at a glance whether certain rations will produce the desired amount of essential ingredients or not. As you do not have clover hay and you feed nothing but corn and oats for grain one can tell at once that your ration is exceedingly low in digestible proteins. I would suggest that you feed a pound and a half of cottonseed meal and one and one-half pounds of oil meal to each cow and besides enough of this ground corn and oats to make the one pound of grain to every three pounds of milk. This is quite important because you substitute feeds very rich in proteins for a part of your corn and oats. If you do this I believe your cows will increase in milk flow.

C. C. L.



83 Years of Experience Produced this Plow

AWAY back into the years goes the history of John Deere Tractor Plows—back to the days of Andrew Jackson, when the first John Deere Plows enabled the pioneer farmers to make good seed beds in difficult virgin soil. It is a history of continued plow-making leadership—of increasing success in finding out what would best serve the farmer and in building plows to meet the requirements. That kind of experience always counts. And there is plenty of proof of it today in the success of

JOHN DEERE TRACTOR PLOWS

In every farming section these plows are increasing the long established reputation of John Deere Plows for giving the user the greatest final returns on his investment. They meet the requirements of successful tractor plowing—just as John Deere horse-drawn plows meet the requirements of their type.



Here's a Booklet You Should Have

It's full of good information for the man who needs a tractor plow. Send for your copy today. A post card will bring it to you. Address John Deere, Moline, Ill. Ask for Booklet FS-126.

Equipped With Genuine John Deere Bottoms—They have an established, world-wide reputation for good scouring, good seed-bed making and long life. Hardened soft-center steel, chilled or combination bottoms can be furnished. You can get John Deere bottoms in the shape and type to meet the requirements of your soil.

Quick Detachable Shares on John Deere Tractor Plows are strong and close-fitting. Simply loosen one nut to remove the share. Tighten the same nut and the share is on tight.

Beams Are Guaranteed Not to Bend or Break, and there is no time limit on this guaranty. The heavy beam braces are long-lapped and are securely joined to the beams with heavy bolts and lock washers. John Deere Tractor Plows keep their alignment.

Simple, Strong and Positive Power Lift raises the bottom high and level. Lifting mechanism moves

only when plow is being lifted or lowered—practically no wear.

Work With Any Standard Tractor—The hitch is widely adjustable up and down or to the side.

Three Sizes—John Deere Tractor Plows are made in two-bottom, three-bottom and four-bottom sizes, with 10, 12 or 14 inch bottoms.

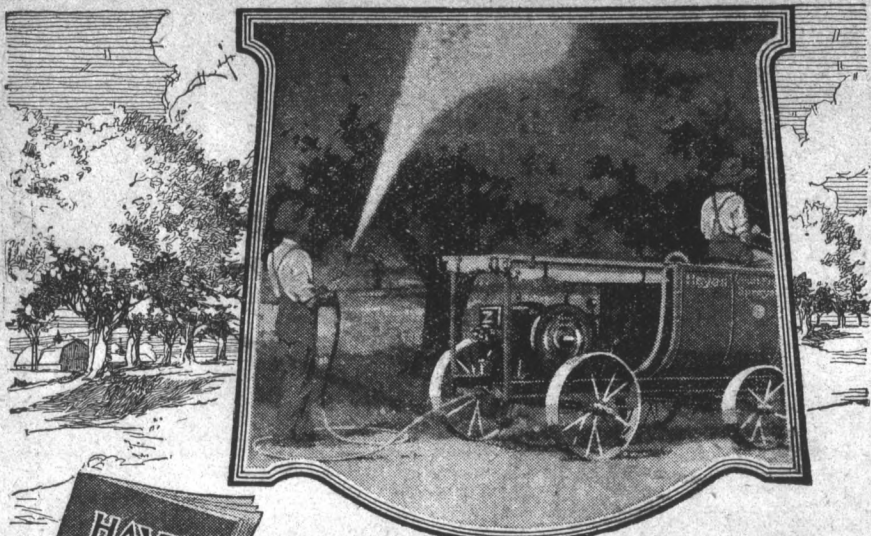
See These Plows at Your John Deere Dealer's Store—There is a John Deere dealer near you. He will be glad to show you John Deere Tractor Plows. It will pay you to investigate them. Remember, good plowing will be your object when you operate your tractor-plowing outfit. That's why plow quality counts so much. You need the best plow you can buy. Be sure to see John Deere Tractor Plows as soon as possible.

Write today for booklet describing John Deere Tractor Plows. Address John Deere, Moline, Ill.

JOHN DEERE



THE TRADE MARK OF QUALITY MADE FAMOUS BY GOOD IMPLEMENTS



FREE—Astounding Facts on "Fruit-Fog" Spraying!

Send the coupon. Read why Fruit-Fog—the fog-like, super-spray—is the ONLY spray of vapory enough fineness to work into the microscopic niches in bark, buds and foliage, where no coarse spray can reach. Convince yourself that only by killing these millions of hidden pests are big yields possible. Then you'll understand why Fruit-Fogged Orchards produce amazing crops—make fortunes for their owners each year.

HAYES FRUIT-FOG SPRAYERS

Fruit-Fog is produced by Hayes 300 lb. high pressure and the famous Hayes nozzle. The spray envelopes everything like a mist, and has wonderful adhering power. No drops form—no solution wasted—no buds or leaves knocked off—as with coarse, heavy, low pressure sprays. Fruit-Fog Sprayers are skillfully made to give enduring service and greatest efficiency under high pressure. Service stations in all parts of the U. S. assure new parts within 24 hours in case of accident. Famous Fairbanks-Morse "Z" Engine means reliable engine service.

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Send coupon telling us how many fruit trees you have and average age. We'll tell you the style Hayes Sprayer best suited to your needs, and its price. We'll also send our Big FREE Book and our Valuable Spraying Guide. Send coupon today.

Hayes Pump & Planter Company
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Please send, FREE and without obligation, your Big New Sprayer Book and Valuable Spraying Guide.

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Hayes Fruit-Fog Gun

World's fastest spraying apparatus. Simple twist gives long spray for tall trees, or wide spray for closeup work. Does better work and saves solution. Book gives full details.



The Tractor in the Orchard

This Is One of the Prize-winning Addresses Delivered in the Student Contest at the Recent Meeting of the State Horticultural Society, by Stanley Johnston.

WHILE the development of the farm tractor during the past five years has been little short of marvelous only a small percentage of the farmers and orchardists of the state have seen fit to substitute the tractor for the horse. In the past they have had four very good reasons for not making the substitution.

First. The old type of tractor could not turn in a short enough space and as a result many trees were injured at the ends of the rows.

Second. The old type of machine was entirely too tall and many lower limbs were injured.

Third. Many orchardists did not believe that the tractor was reliable.

Fourth. The lack of mechanical knowledge on the part of the average owner caused a great deal of trouble.

But recently these objections have to a great extent been overcome. We now have tractors that can turn in a diameter of less than twelve feet, and that are built so low that all possible danger of injuring the trees has been done away with. Also better methods of construction have made the tractor practically as certain of doing its work throughout the year as the horse. The lack of mechanical knowledge has, no doubt, caused more trouble than any other one thing, but recently the great amount of literature on the subject, and the short courses in tractor work given at our state agricultural college have done much to eliminate this trouble, and give the operators of the tractor a better mechanical knowledge.

At present the tractor has two great points in its favor.

First. The tractor is speedier than the horse.

Second. The tractor is more economical than the horse.

The tractor is speedier than the horse because it can travel along at the rate of two and one-half to three miles an hour, and do it consistently

in spite of hot weather and other adverse conditions which naturally tend to slow up the horse. The question of speed is of great importance to the orchardist, because orchard operations are of such a nature that they need to be done as quickly as possible. Delays are both dangerous and costly in the orchard.

In the second place the tractor is more economical than the horse. Aside from the interest on the investment, depreciation, and storage, it costs practically nothing to keep the tractor while not in operation. On the other hand it costs nearly as much to keep the horse when idle as when at work.

This is of great importance to the orchardist as the season during which the tractor or horse is needed in the orchard is much shorter than on the general farm. A few idle horses will eat up the profits in a short time.

A series of experiments carried on in this state and at the Ohio State University showed that the tractor could do the same amount of work that a horse could do with one-half less labor, and nearly one-half less labor is an item that can not be very easily overlooked in these days of scarce labor and high wages.

Although I have not time to go into the details of the proof of the various points that I have emphasized, it might be well to state that the Ohio State University gathered some very interesting information from eight hundred tractor owners of Ohio. Eighty-seven per cent of the owners declared that the tractor had saved them nearly one-half in labor; eighty-eight per cent believed that the tractor had always been reliable, and eighty-nine per cent thought that the tractor was a paying investment. Such facts indicate that the tractor wisely purchased and operated with a reasonable amount of care will do its work well and will prove to be a paying investment for the orchard owner.

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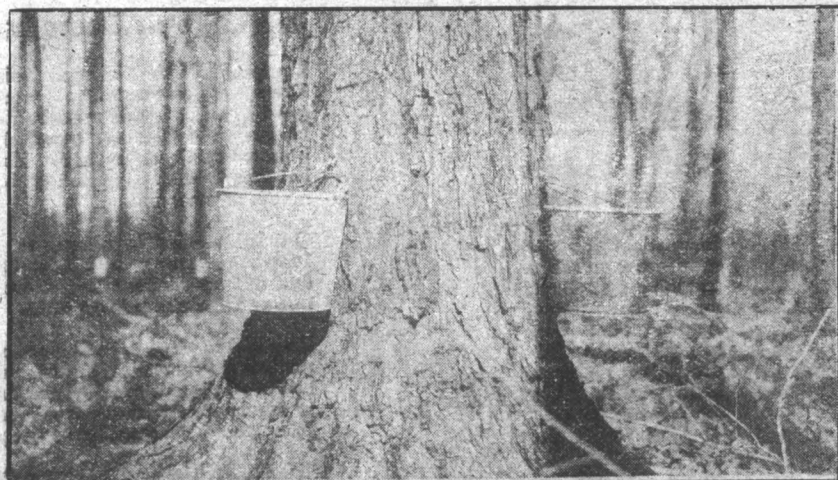
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Tap Big Maples Twice



ONCE heard a farmer say that you will get no more sap from a maple tree that is tapped in two places than one tapped in but one place. But if the tree is properly tapped in two places you will get just twice as much sap. We make it a point to tap all the biggest trees in two places, and I could never see that the tree was injured one particle by the practice.

Always tap the tree on the southeast side and the southwest side. The morning sun reaches the former first, and by nine o'clock of a favorable day the latter will begin to drop briskly. The southeast side will drop nearly as late in the evening as the other unless the temperature falls very quickly toward sundown. Don't tap the trees more than thirty inches from the ground as the buckets when full are hard to handle about the big roots. Buckets with bails on them are easier to handle than those without, and quart buckets are more convenient than larger buckets.

J. L. J.



We have the Fish

TO FARMERS who know the value of fish and want it in their fertilizer, we announce that we have laid in an ample supply of fish scrap to meet all demands. If you want the genuine, original Fish Scrap Fertilizer, insist on

ROYSTER'S FERTILIZER



The Fertilizer That Made Fish Scrap Famous

F. S. ROYSTER GUANO CO.
Toledo, Ohio



SELECTING SMALL FRUIT.

IN buying small fruit plants it pays to select hardy varieties which have proven successful in the community. By trading with reliable nurserymen, fruit will be obtained which is true to name and this saves much disappointment. Sometimes good plants can be obtained from neighbors or friends in other sections but the grower should not accept such plants even if they are free unless something is known of the varieties and health of the plants. If raspberries are obtained from a badly diseased patch there will be but little chance of growing them successfully.

Often a home fruit garden will become mixed when a large number of varieties are grown in a small area. Then if plants are taken from such a patch the new fruit garden may turn out to be full of mixed varieties and this is a great handicap at harvesting time. The different varieties ripen at different times and it costs money to pick berries. If a patch is mixed and the fruit does not ripen evenly, most of the profit will be used up by the cost of labor in hunting for berries. When the fruit is purchased from a reliable nurseryman who has had experience in growing plants and controlling insect and fungous pests, there will be the best chance of growing the fruit at a profit.

When the fruit is to be grown commercially it usually pays to select one or two varieties rather than a large number. Then there will be enough fruit ripen at one time to make the marketing profitable work and when it is finished the grower will not have to be bothered with small fruit again. If there are many varieties and a few plants of each kind, the grower will constantly have a few crates of this and that to take his attention from other work. If the small fruit garden is only for home use it sometimes pays to select several varieties so that the fruit will be available for use on the home table over a long period.

The acreage planted to small fruit can only be determined by a study of the labor supply and a comparison of the time taken in fruit growing with the time necessary for other work. Many farmers have had a city friend ask them why they didn't plant fifteen or twenty acres of strawberries, sort of as a side line. Only experience with strawberries can prove to a man the large amount of labor which can be expended on one acre of this very desirable fruit. The growing of brambles also takes considerable time. The care and pruning amount to the equivalent of considerable money and the crop must pay the bill plus the profit.

In selecting the small fruit plants it pays best to start on a small scale and then increase the plantings as the experience proves that it will be safe. Then the acreage can safely be increased from the plants grown on the home farm. Small fruit thrives on a great variety of soil and while some soils are better than others, every farm should have a small fruit garden at least for home use. There is practically always a good market for the hours spent in harvesting, cultivating surplus.

R. G. KIRBY.

Practical Tractor Facts

THE 1920 "Ten-Twenty" that is going to outdistance all other tractors not only in the matter of nation-wide popular demand, but also in general satisfaction to the farmer, is the **Titan 10-20**.

In five years' time a great many thousands of Titan tractors have been manufactured at the great Milwaukee Works, the home of the Titan. Practically every one of these tractors is in use today. They are serving not only the farmers of America, but also thousands in Europe, rebuilding the dormant war-torn acres that are hungry for crops.

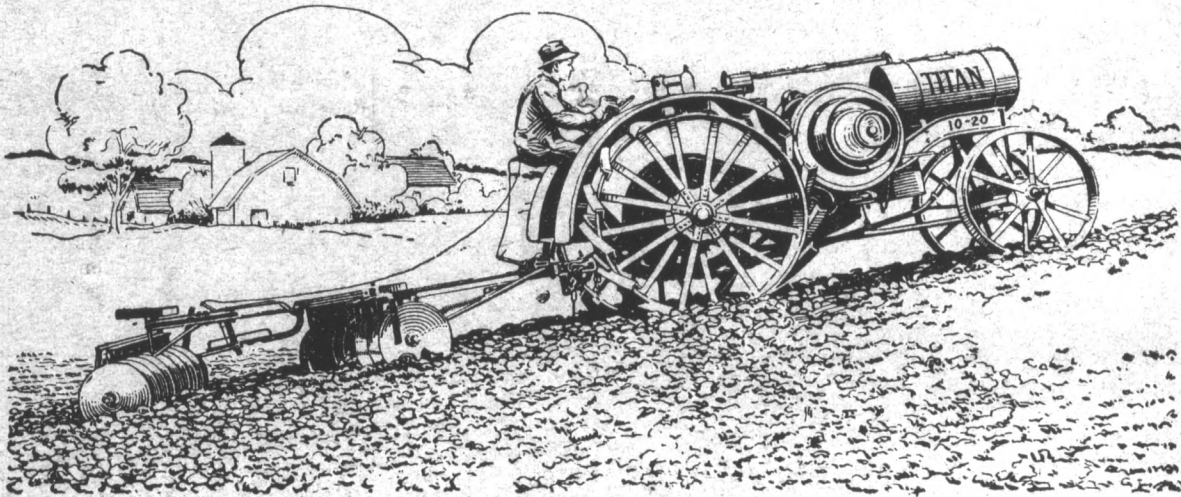
With so great a number of Titan 10-20's in active use—setting so many good examples to farmers in need of right power—it has been necessary to enlarge the manufacturing facilities to meet the rapidly developing demand for this most

Titan 10-20 Features

1. Wide friction-clutch pulley
2. Economy throttle governor
3. Adjustable drawbar
4. Safety fenders
5. Comfort platform
6. Sixteen-tool set
7. Free starting-instruction service

popular of popular tractors. The scene at the tractor plants is one of night-and-day activity, with 5,000 men on the job. It is probable that, by the time this notice appears, producing volume will have been increased sufficiently to enable you to get a **Titan 10-20** for early spring delivery if your order is placed at once.

There has been no increase in price. **Titan 10-20** is available for you at the 1920 price fixed last July—**\$1,000 cash, f. o. b. factory**. See your International dealer.



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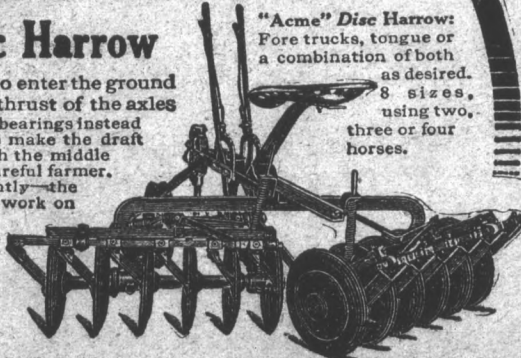
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The discs are so shaped as to enter the ground with a clean cut. The direct thrust of the axles is taken up on dust guarded ball bearings instead of cast bumpers. These features make the draft light. Offset gangs do away with the middle ridge so objectionable to the careful farmer. The gangs can be set independently—the driver can hold the tool to its work on steep hillsides. Pressure springs make the discs "bite in" and prevent skipping of low spots.

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Auburn	Hupmobile	Owen-Magnetic	G. M. C.	Panhard	
Bacon Motors	Jordan	Olympian	Grant-Denmo	Parker	
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Willard STORAGE BATTERY

WORLD EVENTS IN PICTURES



John Charles Thomas, Ethel and John Barrymore as they appeared at the Actor's Equity Ball in Hotel Astor, New York City.



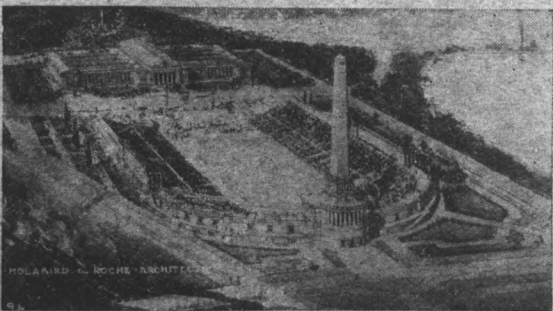
Polar bears frolicking at Manhattan Beach. Enjoying the surf and the snow in their one-piece suits while spectators in furs shivered at the sight.



Attorney-General Palmer and leaders in High Cost of Living Conference.



Lieut. Isaacs won war's highest honor.



Chicago Stadium to be World's Largest.



Famous dancer in the dress of a Sioux Chief interprets the Red Men's dances.



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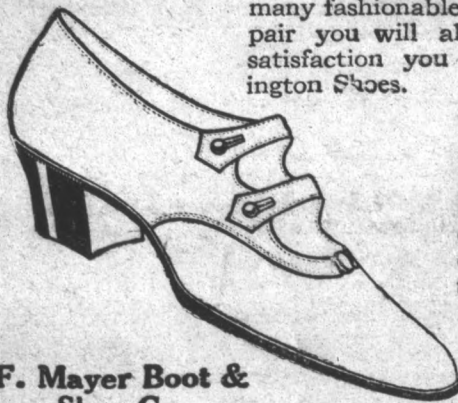
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This shoe has been widely imitated. Look for the name and trade-mark on the sole or label in the top.



Mayer Washington Shoes



Pie Time in Missouri

By Edgar White

A LONG in the fall and winter nearly every issue of the country weekly contains stories like this from a recent number of the Monroe Star:

"The pie supper given Friday night at the Spalding High School, where Miss Ellen Lillis, of the Stoutsville vicinity is teaching, was quite worthy of notice. The proceeds amounted to \$96.75. Three pies brought \$5.00 each and were made by the Misses Virginia Hayes, Margarette and Ellen Lillis, and were purchased by Messrs. Ray Shannon, Alfonso Alexander and Eales (Tid) Bailey. The proceeds of the box of candy which was given to the most popular young lady amounted to \$40 and was awarded to Miss Margaret Lou Raymond."

O. L. Cross, superintendent of the Macon county public schools, indignantly denied the suggestion that district school boards attached more importance to a teacher's qualifications as a booster of pie socials than for her learning. But he added:

"Of course it doesn't hurt if she has some executive ability in organizing such affairs, because they are wonderfully effective in raising money for useful purposes."

When the Grand View consolidated high school, over in Drake township, started the fall term, the directors ordered a \$400 piano.

"Will the tax levy pay it?" asked the dealer, with some hesitation.

"Oh, no," smiled the chairman. "But we've got a live school teacher, and she'll run pie socials." Then he explained what a pie social was, and the dealer shipped the piano on a contract requiring completed payments in six months. The instrument was paid for long before Christmas.

It takes something of a captain of industry to bring a pie social up to the standard of revenue possibilities. If it was just a matter of baking a lot of pies and selling them at regulation prices there wouldn't be enough receipts to justify the trouble. But success demands fifty per cent sentiment with fifty per cent business. A pretty girl's pie will fetch a great deal more than a common-looking girl's pie, although the C. L. G. may have produced a far better specimen. The pretty girl has a lot of beaux, and their part in the game is to bring a pocketful of money and bid her pie up to the limit of their cash. The one who wins gets to eat the pie with the girl who made it. The unsuccessful bidders may look on, if the sight interests them. But more likely they will switch to some other pretty girl, and keep bidding till luck comes their way. There are generally enough pretty girl pies to clean out the cash of the crowd.

Generally the teacher's pie brings the most swag, if she is young and attractive. It is considered the highest honor of the event to bid in the teacher's pie and eat it with her. If the teacher happens to be man—well, they never have pie socials in that case, because a man teacher wouldn't know how to build a pie, and nobody would want it if he did.

When a country teacher wants to start something she invites a lot of town boys out to her pie social. The fun comes when the town boys and the country boys get to bucking against each other.

One night a lot of boys went out from the nearby town to Owl Creek school. Each of them had a big roll in his pocket, and when the auction was pulled off all the pretty-girl pies were bid in by the town boys, who sat down with the pie-makers and had a good time. The country boys silently withdrew, leaving the field to their hated rivals. According to their way of thinking, those town boys had no more right there than the Germans had to invade Belgium. So they swung a red lantern across the roadway and when the town boys came honking along in their auto, they slowed up for the danger signal and were greeted by a drum-fire of tomatoes, potatoes, eggs, carrots and dainties tossed their way by husky arms. The town boys never made a return trip to the pie socials.

The home-made country pie doesn't recognize the lunch stand variety as



Pie Building is an Art.

in its class. There is no lack of materials on the farm to build the article to the proper height and flavor, and when ready for the auction it is a work of art—"eats good," as the fellow says who gets it. In some cases mother acts as advisory counsel, because her reputation is at stake as well as her daughter's, and she is reckless of expenditure to make the confection perfect.

The organization of a successful pie bee requires as much headwork as to run a county democratic convention in these restless days. Having chosen her company of pie-makers, selected the date and made arrangements for the boys to fill the lamps and sweep out the building, the teacher calls up the rural correspondent and tells him to get a good notice in the paper a week before. Then she calls up a young farmer and lets him know that a girl for whom he feels tenderly is going to bake a pie for the social Friday night, and that she, as a friend, hopes he'll get that pie. Which means she wants him to come well heeled financially.

In grateful tones he thanks her for the tip, and tells her he'll be there with the goods.

Then she shamelessly calls up his rival, and puts him next. He, too, promises to go pie hunting on the eventful night, and to bring his pocketbook along.

Thus the word is passed around, and when pie night comes the building won't hold the crowd. The president of the literary society is mostly the auctioneer, because he knows all the

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Vapor Tight Ring Co.

Box 1772-0 Minneapolis, Minn.

POTATO BAGS Sound and free from holes. Sold direct to growers at wholesale prices. WRITE LINCOLN BAG CO., Dept. D, Springfield, Ill.

romances in the township, and how to play the sporting blades against each other to a finish.

While arranging for her Christmas pie social, Miss Susie Hartman, teacher of Ten Mile, told her rural friend that her friend from Macon was coming out to the bee, and that he was a good spender.

"But I've only got two dollars to spare, Susie," the country youth warned her. "That's all the pie's worth anyhow."

"See here, Tom," said the teacher, a bit vexed at his modest appraisal, "all you got to do is to keep bidding, and when Joe (the town boy) has gone near his limit, I'll nod and you quit bidding—see."

"But suppose you forget to signal—remember I only got two dollars."

"Never fear," smiled the teacher, "I'll nod in time."

The auctioneer ran Miss Susie's pie up to fifteen dollars and six-bits, which was a record for the township, and at that figure the teacher nodded—to the town boy, or perhaps somebody else—there were a number in on the deal. Anyhow the pie was knocked down to the startled Tom, and the auctioneer congratulated him on the fact that as soon as he had paid the cashier he'd get to eat his pie with the teacher. Tom hurried around to Joe to borrow the balance to pay for the pie he had bought.

"I'd hand it over to you, Joe, when I come to town tomorrow," he said.

"Sorry, Tom," returned the town boy, "but I only brought two dollars along. She said that was all I'd need."

But for the pie bees the rural schools would be deprived of a great many things needed to carry on the work satisfactorily, as the legal tax levy is hardly sufficient to employ good teachers. The matter of enacting a law to increase the levy is now being urged to those who insist that under the present levy the salaries paid are wholly inadequate, and that only the patriotism of the teachers keep them on a job that doesn't yield them as much as is paid ordinary labor.

But the pie bee keeps the equipment up in shape. If a school wants a modern heating apparatus, a piano, an addition to the library or an electric plant the pie auction never fails to produce the funds.

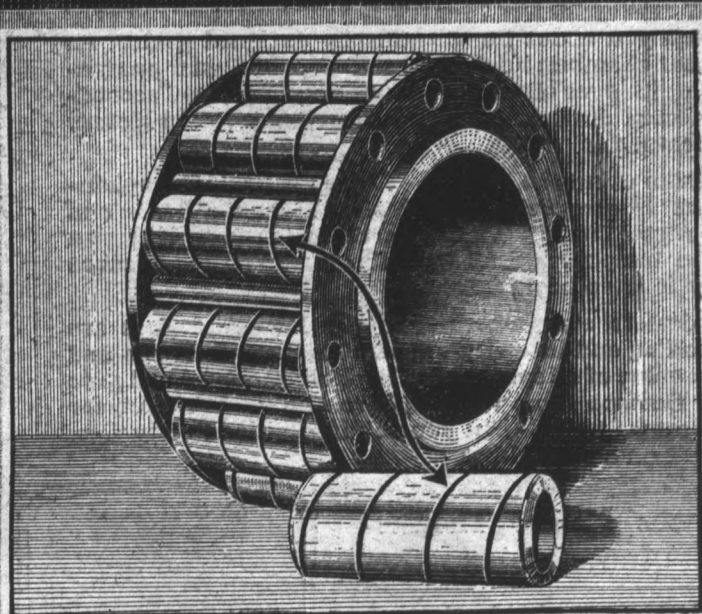
Next to the teacher who organizes the event is the auctioneer. A good deal of the success depends on him. During the war, when they were holding pie socials to help finance the Red Cross and Liberty Bond issues, a German settlement in North Charlton county developed a man of such good capacity that his services were called for in a great many sections of the state. At one affair this auctioneer worked them up to such a pitch that one man after parting with every cent he had, put up his hat, which the auctioneer sold for five dollars and the man walked home bareheaded. That auctioneer was born in Germany, but was as loyal an American as could be found anywhere.

As far as known there has been no poetry written about pies except in those thrilling memoirs of which Mother Goose is reputed to be the author, but when the present period of unrest is over and things get back to normal the state board will do well to recognize the value of the humble Missouri pie as a co-assistant in its educational work during times of stress.



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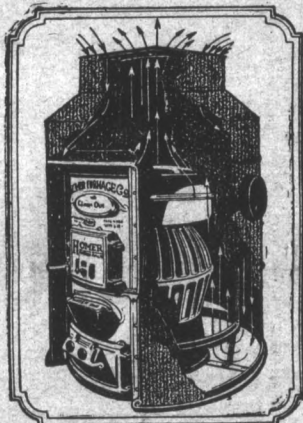
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Dogs Wanted Write me if you have any Scotch Collie or Shepherd puppies for sale, stating price in first letter. I buy either males or females. Dr. W. A. EWALT'S COLLIE FARMS, Mount Clemens, Michigan.

10 thoroughly broken American fox hounds, good hunters and trailers, a few partly broken. Stamp for reply. Ambrose S. Taylor, West Chester, Pa.

Trained American Fox Hounds Rabbit and Skunk dogs all ages. Send stamp. W. E. LECY, Holmesville, Ohio

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A Gypsum Test Strip on Your Fields Will Show Its Worth in Legume Yields
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Dept. P - 111 W. Monroe Street, Chicago



This illustration is an exact copy from Bulletin No. 163 of the Oregon Agricultural Experiment Station showing difference in yield of two plots of ground of equal size. Figure No. 1 shows alfalfa yield where soil was not treated. Figure No. 2 shows yield where Gypsum was applied.

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Crooked Trails and Straight

By Wm. MacLeod Raine

Curly returned to the Del Mar and after the others had gone. "I'm not sent his name up to Miss Cullison, going to let Bob get into danger," he With Kate and Bob there was also in promised.

The girl came forward to meet him with the lance-straight poise that always seemed to him to express a brave spirit ardent and unafraid.

"Have you heard something?" she asked quickly.

"Yes. Tell me, when did your father last meet Lute Blackwell so far as you know?"

"I don't know. Not for years, I think. Why?"

The owner of the Map of Texas answered the question of his nephew. "He met him the other day. Let's see, it was right after the big poker game. We met him downstairs here. Luck had to straighten out some notions he had got."

"How?"

Flandrau, Senior, told the story of what had occurred in the hotel lobby. "And you say he swore to get even?"

"That's what he said. And he looked like he meant it too."

"What is it? What have you found out?" Kate implored.

The young man told about the letters and Mrs. Wylie.

"We've got to get a move on us," he concluded. "For if Lute Blackwell did this thing to your father it's mighty serious for him."

Kate was white to the lips, but in no danger of breaking down. "Yes, if this man is in it he would not stop at less than murder. But I don't believe it. I know father is alive. Cass Fendrick is the man we want. I'm sure of it."

Curly had before seen women hard as nails, gaunt strong mountaineers as tough as hickory withes. But he had never before seen that quality dwelling in a slim girlish figure of long soft curves, never seen it in a face of dewy freshness that could melt to the tenderest pity. She was like flint, and yet she could give herself with a passionate tenderness to those she loved. He had seen animals guard their young with that same alert eager abandon. His conviction was that she would gladly die for her father if it were necessary. As he looked at her with hard unchanging eyes, his blood quickened to a fierce joy, in her it had known for no other woman.

"First thing is to search the Jack of Hearts and see what's there. Are you with me, Uncle Alec?"

"I sure am, Curly," and he reached for his hat.

Bob too was on his feet. "I'm going. You needn't any of you say I ain't, for I am."

Curly nodded. "If you'll do as you are told, Bob."

"I will. Cross my heart."

"May I come too?" Kate pleaded.

She was a strong-willed impulsive young woman, and her deference to Curly flattered him; but he shook his head none the less.

"No. You may wait in the parlor downstairs and I'll send Bob to you with any news. There's just a chance this may be a man's job and we want to go to it unhampered." He turned at the door with his warm smile. "By the way, I've got some news I forgot. I know where your father got the money to pay his poker debts. Mr. Jordan of the Cattleman's National made him a personal loan. He figured it would not hurt the bank because the three men Luck paid it to would deposit it with the bank again."

"By George, that's what we did, too, every last one of us," his uncle admitted.

"Every little helps," Kate said, and her little double nod thanked Curly.

The young man stopped a moment

"I knew you wouldn't," was her confident answer.

At the corner of the plaza Curly gave Bob instructions.

"You stay here and keep an eye on everyone that passes. Don't try to stop anybody. Just size them up."

"Ain't I to go with you? I got a gun."

"You're to do as I say. What kind of a soldier would you make if you can't obey orders? I'm running this. If you don't like it trot along home."

"Oh, I'll stay," agreed the crestfallen youth.

Maloney met them in front of the Jack of Hearts.

"Dick, you go with me inside. Uncle Alec, will you keep guard outside?"

"No, bub, I won't. I knew Luck before you were walking bowlegged," the old cattleman answered brusquely.

Curly grinned. "All right. Don't blame me if you get shot up."

Mrs. Wylie's startled eyes told tales when she saw the three men. Her face was ashen.

"I'm here to play trumps, Mrs. Wylie. What secret has the Jack of Hearts got hidden from us?" young Flandrau demanded, his hard eyes fastened to her timorous ones.

"I—I—I don't know what you mean."

"No use. We're here for business, Dick, you stay with her. Don't let her leave or shout a warning."

He passed into the back room, which was a kind of combination living-room, kitchen and bedroom. A door led from the rear into a back yard littered with empty packing cases, garbage cans and waste paper. After taking a look around the yard he locked the back door noiselessly. There was no other apparent exit from the kitchen-bedroom except the one by which he and his uncle had entered from the shop. But he knew the place must have a cellar, and his inspection of the yard had showed no entrance there. He drew back the Navajo rug that covered the floor and found one of the old-fashioned trap doors some cheap houses have. Into this was fitted an iron ring with which to lift it.

From the darkness below came no sound, but Curly's imagination conceived the place as full of shining eyes glaring up at him. Any bad men down there already had the drop on them. Therefore neither Curly nor his uncle made the mistake of drawing a weapon.

"I'm coming down, boys," young Flandrau announced in a quiet confidential voice. "The place is surrounded by our friends and it won't do you a whole lot of good to shoot me up. I'd advise you not to be too impulsive."

He descended the steps, his face like a stone wall for all the emotion it recorded. At his heels came the older man. Curly struck a match, found an



electric bulb above his head, and turned the button. Instantly the darkness was driven from the cellar.

The two Flandraus were quite alone in the room. Furniture there was a table, a cot which had been slept in and not made up, and a couple of rough chairs. The place had no windows, no means of ventilation except through the trap door. Yet there were evidences to show that it had recently been inhabited. Half smoked cigars littered the floor. A pack of cards lay in disorder on the table. The *Sentinel* with date line of that day lay tossed in a corner.

The room told Curly this at least: There had been a prisoner here with a guard or guards. Judging by the newspaper they had been here within a few hours. The time of sending the special delivery letter made this the more probable. He had missed the men he wanted by a very little time. If he had had the gumption to understand the hints given by the letters Cullison might now be eating supper with his family at the hotel.

"Make anything out of it?" the older Flandrau asked.

"He's been here, but they've taken him away. Will you cover the telephoning? Have all the ranches notified that Luck is being taken into the hills so they can picket the trails."

"How do you know he is being taken there?"

"I don't know. I guess. Blackwell is in it. He knows every nook of the hills. The party left here not two hours since, looks like."

Curly put the newspaper in his pocket and led the way back to the store.

"The birds have flown, Dick. Made their getaway through the alley late this afternoon, probably just after it got dark." He turned to the woman. "Mrs. Wylie, murder is going to be done, I shouldn't wonder. And you're liable to be held guilty of it unless you tell us all you know."

She began to weep, helplessly, but with a sort of stubbornness too. Frightened she certainly was, but some greater fear held her silent as to the secret. "I don't know anything about it," she repeated over and over.

"Won't do. You've got to speak. A man's life hangs on it."

But his resolution could not break hers, incomparably stronger than she though he was. Her conscience had driven her to send veiled warnings to the sheriff. But for very fear of her life she dared not commit herself openly.

Maloney had an inspiration. He spoke in a low voice to Curly. "Let's take her to the hotel. Miss Kate will know how to get it out of her better than we can."

Mrs. Wylie went with them quietly enough. She was shaken with fears but still resolute not to speak. They might send her to prison. She would tell them nothing—nothing at all. For someone who had made terror the habit of her life had put the fear of death into her soul.

CHAPTER VIII.

A Message in Cipher.

WHILE Kate listened to what Curly had to tell her the dark eyes of the girl were fastened upon the trembling little woman standing near the door.

"Do you mean that she is going to let my father be killed rather than tell what she knows?" Her voice was sharply incredulous, touched with a horror scarcely realized.

"So she says."

Mrs. Wylie wrung her hands in agitation. Her lined face was a mirror of distress.

"But that's impossible. She must tell. What has father ever done to hurt her?"

"I—I don't know anything about it," the harassed woman reiterated.

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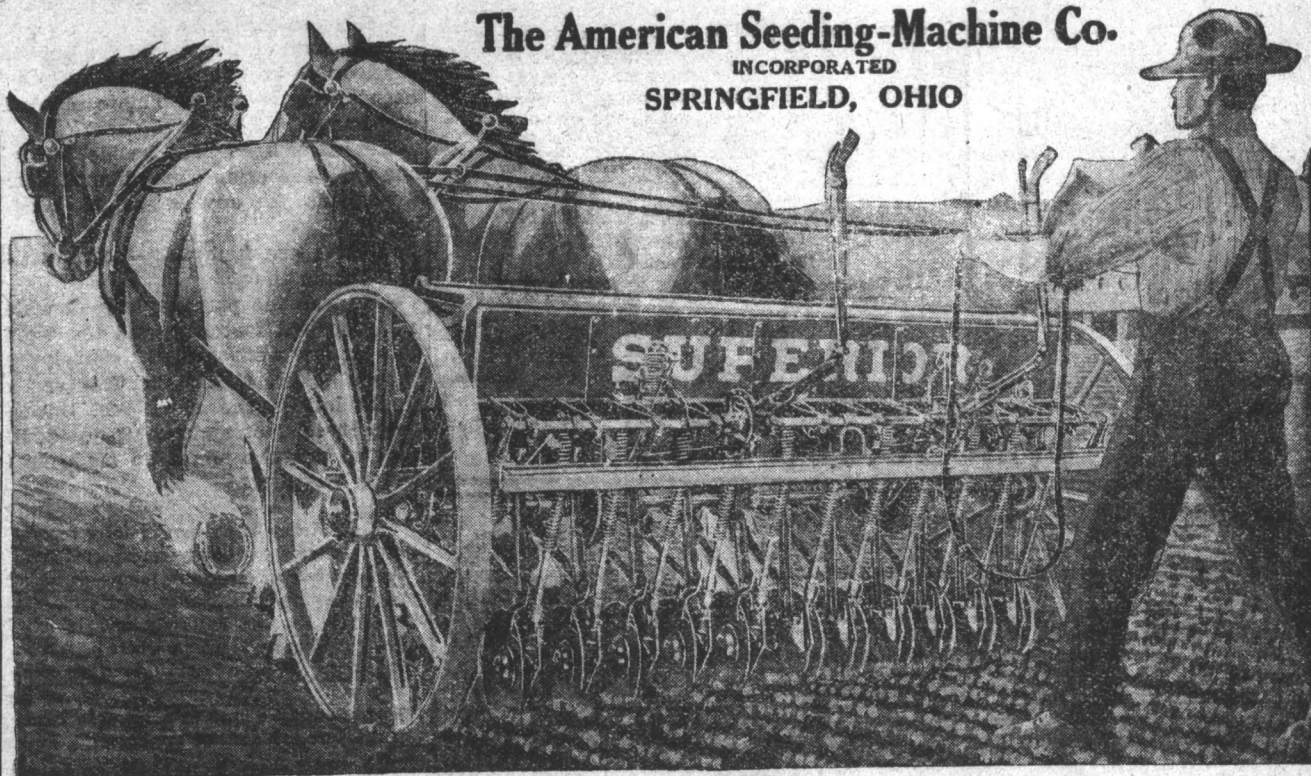
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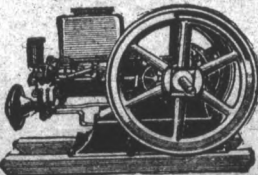
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"What's the use of saying that when we know you do? And you'll not get out of it by sobbing. You've got to talk."

Kate had not moved. None the less her force, the upblaze of feminine energy in her, crowded the little storekeeper to the wall. "You've got to tell —you've just got to," she insisted.

The little woman shrank before the energy of a passion so vital. No strength was in her to fight. But she could and did offer the passive resistance of obstinate silence.

Curly had drawn from his pocket the newspaper found in the cellar. His eyes had searched for the date line to use as cumulative evidence, but they had remained fastened to one story. Now he spoke imperatively.

"Come here, Miss Kate."

She was beside him in an instant.

"What is it?"

"I'm not sure yet, but—. Look here. I believe this is a message to us."

"A message?"

"From your father perhaps."

"How could it be?"

"I found the paper in the cellar where he was. See how some of these words are scored. Done with a finger nail, looks like."

"But how could he know we would see the paper, and if we did see it would understand?"

"He couldn't. It would be but one chance in a million, but all his life he's been taking chances. This couldn't do any harm."

Her dark head bent beside his fair one with the crisp sun-reddened curls.

"I don't see any message. Where is it?"

"I don't see it myself—not much of it. Gimme time."

This was the paragraph upon which his gaze had fastened, and the words and letters were scored sharply as shown below, though in the case of single letters the mark ran through them instead of underneath, evidently that no mistake might be made as to which was meant.

J. P. Kelley of the ranger force reports over the telephone that by unexpected good luck he has succeeded in taking prisoner the notorious Jack Foster of Hermosilla and the Rincons notoriety and is now bringing him to Saguache where he will be locked up pending a disposition of his case. Kelley succeeded in surprising him while he was eating dinner at a Mexican roadhouse just this side of the border.

"Do you make it out?" Maloney asked, looking over their shoulders.

Curly took a pencil and an envelope from his pocket. On the letter he jotted down some words and handed the paper to his friend. This was what Maloney read:

..... luck
..... prisoner Jack of He a
..... R t s now
Saguache locked up pending a disposition of his case. succeeded in surprising him

.....
.....
.....

"Read that right ahead."

Dick did not quite get the idea, but Kate, tense with excitement, took the envelope and read aloud.

"Luck—prisoner—Jack of Hearts—now Saguache—locked up pending a disposition of his case—succeeded in surprising him." She looked up with shining eyes. "He tells us every-

thing but the names of the people who did it. Perhaps somewhere else in the

paper he may tell that too."

But though they went over it word for word they found no more. Either he had been interrupted, or he had been afraid that his casual thumb nail pressures might arouse the suspicion of his guards if persisted in too long.

"He's alive somewhere. We'll save him now." Kate cried it softly, all warm with the joy of it.

"Seems to let our friend Fendrick out," Maloney mused.

"Let's him out of kidnapping Uncle Luck but maybe not out of the robbery," Bob amended.

"Doesn't let him out of either. Somebody was in this with Blackwell. If it wasn't Cass Fendrick then who was it?" Kate wanted to know.

"Might have been Soapy Stone," Dick guessed.

"Might have been, but now Sam has gone back into the hills to join Soapy; the gang would have to keep it from Sam. He wouldn't stand for it"

"No, not for a minute," Kate said decisively.

Curly spoke to her in a low voice. "You have a talk with Mrs. Wylie alone. We'll pull our freights. She'll tell you what she knows." He smiled in his gentle winning way. "She's sure had a tough time of it if ever a woman had. I reckon a little kindness is what she needs. Let her see we're friends and will stand by her, that we won't let her come to harm because she talks. . . Show her we know everything anyhow but want her to corroborate details."

It was an hour before Kate joined them, and her eyes, though they were bright, told tales of tears that had been shed.

"That poor woman! She has told me everything. Father has been down in that cellar for days under a guard. They took him away tonight. She doesn't know where. It was she sent the warnings to Sheriff Bolt. She wanted him to raid the place, but she dared not go to him."

"Because of Blackwell?"

"Yes. He came straight to her as soon as he was freed from the penitentiary. He had her completely terrorized. It seems she has been afraid to draw a deep breath ever since he returned. Even while he was in the hills she was always looking for him to come. The man used to keep her in a hell and he began bullying her again. So she gave him money, and he came for more—and more."

Curly nodded. He said nothing, but his strong jaw clamped.

"He was there that day," the girl continued. "She plucked up courage to refuse him what little she had left because she needed it for the rent. He got hold of her arm and twisted it. Father heard her cry and came in. Blackwell was behind the door as it opened. He struck with a loaded cane and father fell unconscious. He raised it to strike again, but she clung to his arm and called for help. Before he could shake her off another man came in. He wrenched the club away."

"Fendrick?" breathed Curly.

"She doesn't know. But the first thing he did was to lock the outer door and take the key. They carried father down into the cellar. Before he came to himself his hands were tied behind his back"

"And then?"

"They watched him day and night. Fendrick himself did not go near the place—if it was Fendrick. Blackwell swore to kill Mrs. Wylie if she told.



They held him there till tonight. She thinks they were trying to get father to sign some paper."

"The relinquishment of course. That means the other man was Fendrick."

Kate nodded. "Yes."

Curly rose. The muscles stood out in his jaw hard as steel ropes.

"We'll rake the Rincons with a fine-tooth comb. Don't you worry. I've already wired for Bucky O'Connor to come and help. We'll get your father out of the hands of those hell hounds. Won't we, Dick?"

The girl's eyes admired him, a lean hard-bitten westerner with eyes as unblinking as an Arizona sun and with muscles like wire springs. His face still held its boyishness, but it had lost forever the irresponsibility of a few months before. She saw in him an iron will, shrewdness, courage and resource. All of these his friend Maloney also had. But Curly was the prodigal son, the sinner who had repented. His engaging recklessness lent him a charm from which she could not escape. Out of ten thousand men there were none whose voice drummed on her heart strings as did that of this youth.

CHAPTER IX.

"The Friends of L. C. Serve Notice."

TWO men sat in a log cabin on opposite sides of a cheap table. One of them was immersed in a newspaper. His body was relaxed, his mind apparently at ease. The other watched him malevolently. His fingers caressed the handle of a revolver that protruded from the holster at his side. He would have liked nothing better than to have drawn it and sent a bullet crashing into the unperturbed brain of his prisoner.

There were reasons of policy why it were better to curb this fascinating desire, but sometimes the impulse to kill surged up almost uncontrollably. On these occasions Luck Cullison was usually "devilish" him, the only diversion that had been open to the ranchman for some days past. Because of its danger—for he could never be quite sure that Blackwell's lust for swift vengeance would not overpower discretion—this pastime made a peculiar appeal to the audacious temper of the owner of the Circle C.

From time to time as Luck read he commented genially on the news.

"I see Tucson is going to get the El Paso & Southwestern extension after all. I'll bet the boys in that burg will be right tickled to hear it. They sure have worked steady at it."

Blackwell merely scowled. He never relaxed to the give and take of casual talk with his captive. Given his way, Cullison would not be here to read the Sentinel. But the brains of the conspiracy had ruled otherwise and had insisted too upon decent treatment. With one ankle securely tied to a leg of the table there was no danger in freeing the hands of the cattleman, but his hosts saw that never for an instant were hands and feet at liberty together. For this man was not the one with whom to take chances.

"Rudd has been convicted of forgery and taken to Yuma. Seems to me you used to live there, didn't you?" asked the cattleman with cool insolence, looking up from his paper to smile across at the furious convict.

Blackwell was livid. The man who had sent him to the territorial prison at Yuma dared to sit there bound and unarmed and taunt him with it.

"Take care," he advised hoarsely.

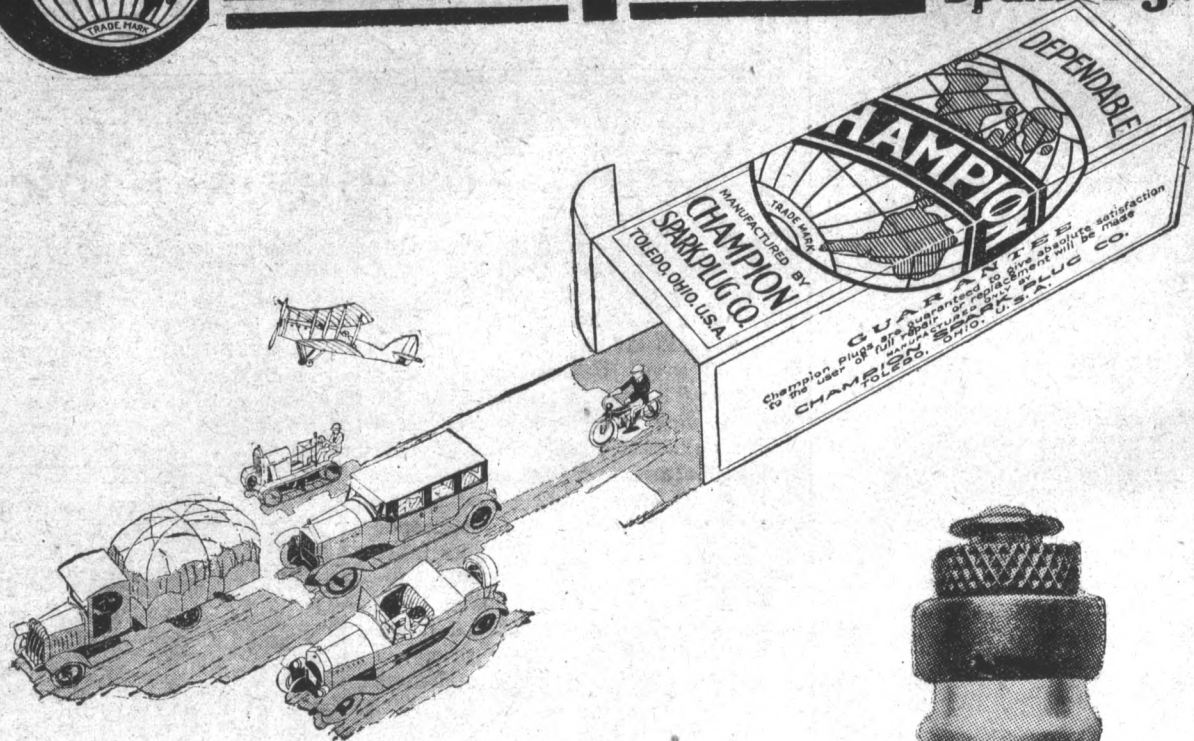
Cullison laughed and went back to the paper.

"Lieutenant O'Connor of the Arizona Rangers left town today for a short trip into the hills where he expects to spend a few days hunting. Hunting what, do you reckon? Or hunting who, I should say. Ever meet Bucky O'Connor, Blackwell? No, I reckon not. He's since your time. A crackerjack

(Continued on page 61).



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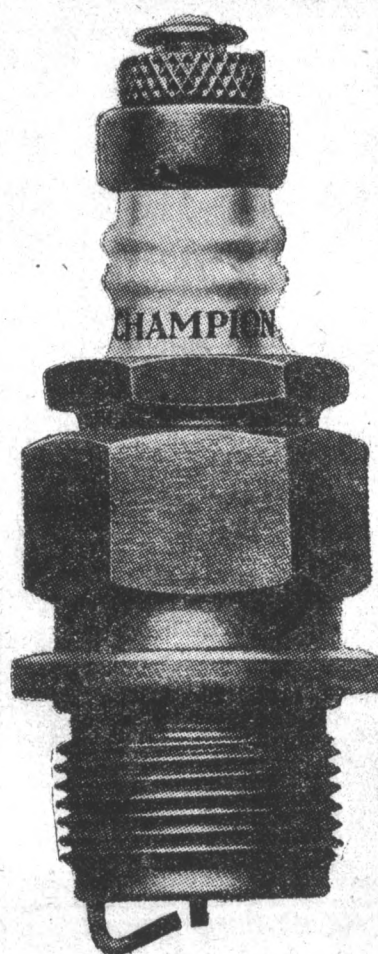


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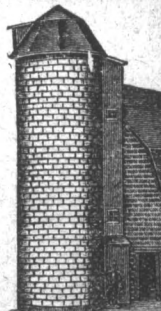
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Horse or Cow hide. Calf or other skins with hair or fur on, and make them into coats (for men and women), robes, rugs or gloves when so ordered. Your fur goods will cost you less than to buy them and be worth more.

Our Illustrated catalog gives a lot of information. It tells how to take off and care for hides; how and when we pay the freight both ways; about our safe dyeing process on cow and horse hide, calf and other skins; about the fur goods and game trophies we sell, taxidermy, etc.

Then we have recently got out another we call our Fashion book, wholly devoted to fashion plates of muffs, neckwear and other fine fur garments, with prices; also fur garments remodeled and repaired.

You can have either book by sending your correct address naming which, or both books if you need both. Address

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It's easy, interesting and economical. Your own back yard will do. My assortment covering 400 acres to select from. The finest Fruit Trees and small fruit ever offered. My prices save you 50 per cent because I sell direct from nursery.

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SOLAR LIGHT YOUR HOME LIKE DAY—Cost 1c for 5 hours. Pure white 60 candle power light from common Kerosene.

SOLAR MANTLE LAMP approved by government experts. Beats gas, gasoline or electricity. Entirely new. Every home interested. **AGENTS MAKE MONEY.** Weeks free trial. Write quick selling plan, territory and trial offer.

SOLAR LAMP CO., 228 Solar Bldg., Kansas City, Mo.

Woman's Interests

When You Buy a Table

DID you ever step into a room that somehow didn't seem right, and yet you couldn't tell just what was wrong? Something jarred, and after you had studied the situation for awhile it came to you that the ugly note was the table. The table didn't "fit." It may have been one of those golden oak oval tables, with a great deal of imitation carving that detracted from its beauty and added to the dusting, or maybe the housekeeper had picked up a little mahogany table and tried to fit it into a room whose predominating note was heavy dark stuff, walnut and oak handed down from grandmother. At any rate, the table wasn't right, and you wished it wasn't there.

When you pick out your table study your room before you go to town and decide on just the style of table and sort of wood that will go with your room. If you have a large room, select a table to fit its sense of size. If the room is small, do not decide on a table so large that it will look as if it filled the room and crowded out every other object. Decide, too, to what use you will put the table. Are you all great readers? If so, you will want a table large enough to hold the books and magazines that collect. If you read little and sew much, there are sewing tables of various styles.

In fact, nowadays there are tables for every sort of use and to fit every corner. For, while the table is one of

ing about as low as they come in this wood.

For half that sum you can get a Martha Washington sewing table which, while it has not so much space for holding work, is very much liked. This is one of the low tables with drop leaves at either end and two drawers



This City Apartment Table May be Ruralized.

in the center. Perhaps you have one in the attic, marred and grimed with age, and do not know its value. When grandmother was a girl everybody had one, made of cherry, walnut, mahogany and even rosewood. Grandmother's descendants may look with disdain on the little old table, but furniture dealers have a different idea. One woman took hers to a cabinet maker and had it renovated. After he had scraped and polished and restored it, he offered the astonished woman \$75 for his find. Needless to say she kept her table.

Perhaps you have a davenport or a great easy chair where the members of the family love to lounge and read. If you have, buy an end table which will fit exactly the end of the davenport or arm of the big chair. This will hold your book or sewing, and the lamp which you will need of a long, winter's evening.

If you are one of the fortunate folks who possess a great living-room with a big open fireplace, don't push your davenport back against the wall. Draw it out in front of the fire where everyone can lounge and enjoy the blaze. Then buy a table to fit across the back, long and narrow and of simple lines. Everyone from father to the three-year-old will have room on such a table for his favorite book, be it on "Soils," or "Mother Goose." If you need extra space for books, there are the most convenient little book tables imaginable which may be bought at a reasonable price. These are low, some with flat tops and the V-shaped rack running the length of the table beneath, others with racks for books at both top and bottom.

A table which should be popular with the woman who belongs to clubs and does much entertaining is a table with a double top which may be quickly converted into a fair-sized dining-table. These were originally designed for small city apartments, where the living-room has to do duty for dining-room as well, but there is no reason why the farm woman who has crowds to entertain once or twice a year, should not utilize such a table. The tumbles may be bought either round or square top. The top is hinged in the center, and fitted onto a pivot. It may be used closed, or pushed back

against the wall, with the top half open and resting against the wall. When desired as a dining-table, open the top to its fullest extent, swing it around on the pivot, until the hinged part is at exact right angles with its original position, the base acting as support for the wide open top.

Another type of living-room table which may be utilized when entertaining is the gate-leg table. These have the hinged top supported by legs which swing back and give the table its name.

Have you a parlor? Few homes now boast such a luxury, but if you have, and want a table for decorative purposes solely, nothing is more artistic than the console table. These come from the French, famous for their richly ornamented furniture. These tables stand against the wall, usually nowadays they are semi-circular in form. The back is never ornamented, since it is never exposed to view, but the front and sides are usually rather ornate. They stand under a long mirror in most rooms. If you ask your dealer why they are called "console" tables he probably cannot tell you. It is because the original console table was supported by scroll-shaped brackets, or on legs resembling brackets, similar to the console brackets that used to support the cornices over Grecian and Roman doorways.

If it is a library table you need, study your room even longer and more earnestly before you make your selection. Decide where the table must stand, then consider the size of the room. Get as large a table as the room will stand, but don't get one out of proportion with everything else. If the chairs are rather small and insignificant don't pick out a table which will dwarf them still more. And above all, select a table without carving or corners to catch dust. Get it as sim-



The Gate-leg Table Fits Any Room.

ple in line and design as possible. Do not buy a shiny, varnished table which will show every scratch and finger mark, especially if you have children. Select one with a dull finish, which will be easily kept looking nice by a good rubbing with an oiled cloth.

Perhaps daughter wants a dressing-table for her room. Get her one of the white enameled tables, with bright cretonne or chintz beneath a glass top. Then re-enamel her old iron bed, or if it is of wood, take off the old finish with sand paper and do the bed over in white enamel. Get curtains and cushions of cretonne to match the table room tidy without your constant reminder.

DIRECTING THE CHILD'S POWERS
OF OBSERVATION.

BY JULIA R. DAVIS.

HOW we would like to give great gifts to our children! There is nothing we would not endure to insure for them success, or fame, or wealth. But here is a gift we may give, if we will make the proper effort, that will insure enduring sources of enjoyment. It helps us to forget sorrows, losses, disappointments, and provides us with unending entertainment and diversion.

Many people will tell you that the habit of observation is a gift inborn, which is, to a certain extent, true. But it can be cultivated, just as cheerfulness, truthfulness, or any of the other desirable virtues.

If an individual possesses a love of nature and the habit of observation, he has within himself a source of enjoyment wherever he may go, in whatever circumstances he may be placed.

The baby at an early age, can be taught to observe without taxing his brain to any great extent. He can be shown the flowers, the birds, the trees, and gradually he can be directed to observe the fields, the woods, and passing objects of interest. Soon he will begin to notice for himself, and his outings will be of more delight to him and his mother.

Mothers will not find directing the child's powers of observation arduous, or tedious. It is most interesting to watch the development of his mind, and notice how his habit of observation will increase from day to day. He will first be attracted by the largest objects, horses, cows, and people coming in for the first attention, then smaller animals.

The wise mother in cultivating her child's powers of observation will endeavor to train him to see the bright, and pleasant things first.

If some mother hesitates to begin to teach her child to observe, because she lacks the habit of observing closely herself, let me urge her to begin to cultivate this habit for herself. Practice it daily, everywhere you go—when with your child, or alone. Your efforts will reap a rich reward, for your interest, and joy in life will be immeasurably increased.

A HOME-MAKER'S LIBRARY.

IF you could get a valuable library for nothing would you take it? The Michigan Agricultural College offers home-makers a free library covering the details of their line of work, though instead of coming in bound volumes this library is in the form of bulletins which are to be asked for by name and number. Just now the college at East Lansing is sending out the following Extension Course Notes to those who write asking for the ones they especially need:

- 13—Eggs.
- 14—Beef.
- 15—Vegetable Foods.
- 16—Rules for Planning the Family Dietary.
- 18—How Can I Use Less Sugar.
- 19—Suggestions on Preservation of Meat.
- 20—Clothing for Children.
- 21—The Care of Clothing.
- 22—How to Know Materials.
- 23—How to Buy Clothing.
- 24—Home Dressmaking Patterns.
- 25—Remodeling.
- 27—Jellies, Jams, Marmalades, Con-serves, Fruit Butters, Sweet Pickles.
- 28—Home Canning Guide.

Bulletin No. 18—Good Health.
The following bulletins may be obtained by writing the United States Department of Agriculture, Washington, D. C.

808—How to Select Foods. Part 1, What the Body Needs.

(Continued on page 60).

Lily White

"The Flour the Best Cooks Use"

produces the kind of bread that really satisfies.

Bread baked from LILY WHITE FLOUR is thoroughly nourishing, wholesome, healthful, delicious to taste, and a delight to particular cooks in every respect.

More and more women are using it every day because everything they bake from it "tastes so good" as well as looks good.

Remember, LILY WHITE FLOUR is sold under the guarantee that your money will be refunded if you do not like it better.

VALLEY CITY MILLING COMPANY
GRAND RAPIDS, MICHIGAN.

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BUY A VIRGINIA FARM NOW

Now is the time to become prosperous and happy on a farm in Virginia. You can grow fine crops of corn, all grain and grass crops—the best apples and other fruits, trucks and dairying is profitable. Prices are reasonable, but advancing. Virginia offers more advantages to the farmer than any other State. Why farm where you can raise only two or three staple crops and be far away from good markets, when you can farm a variety of crops in Virginia and near to big markets. The healthiest climate in America. Write for Hand Book, maps, etc. G. W. KOINER, State Commissioner, Richmond, Va.

160-Acre Midwest Farm,
\$8000; Near Thriving

Railroad town. 60 acres fertile tillage, 60 additional acres heavy producing hay meadows, balance wire-fenced 20-cow pasture; much fruit. Relatively new 8-room house, 20-cow barn, granary, corn houses. Owner must remove, hence sacrifices for quick sale, \$8000, easy terms. Details page 86 Strout's Catalog Farm Bargains 23 States; copy free. E. A. STROUT FARM AGENCY, 814 BC Ford Bldg., Detroit.

244 Acres stock and tools included. Read carefully. 2 sets buildings. Fine stucco house. Raised 2000 bushels potatoes per year. Fruit trees, orchard 500 trees. 10 ilk cows, and sugar trees, hogs, wagons, buggies, machinery, two horses, hens, hogs, wagons, buggies, machinery, maple sugar outfit, all small tools. Only \$6,500, \$3,500 cash; balance mortgage at 6 percent. Catalogue number 55. Don't fail to see this at once. Write for photos and catalogue giving full details. Owner is alone, must sell at once. Tompkins Co., N.Y. HALL'S FARM AGENCY, Owego, Tioga Co., N.Y.

Administratrix's Sale—160 acre farm, Montclair Co., Mich. good buildings, fertile farming land, fruit orchards, maple sugar orchard. Farmed by owner for over sixty years. Particulars upon request. Mrs. Maude Reed Newell, East Lansing, Mich.

FARMS and HOMES

Where life is worth living. Moderate prices—genial climate—productive lands. For information write STATE BOARD OF AGRICULTURE, Dover, Del.

200 acre Farm between Grand Rapids and Grand Haven, on Grand River, 4 sets of improvements. Will divide. Write Hunter Herring, Coopersville, Mich. or Park Grable Co., San Diego, Calif.

For Sale 160 acre farm 1 1/2 miles from Orion, Mich. Well fenced, good buildings, electric lights, telephone and mail delivery. Some good lake frontage. Good reasons for selling. O. L. Hemingway, Orion, Mich.

111 Acre Farm near Cleveland, \$12,500, terms \$3000 cash, exchange for small clear property. Bennington, 2114 E. 83rd St., Cleveland, O.

Farm Wanted in exchange for good hardware store. Best location, good business. I. W. WALTER, Helena, O.

MICHIGAN FARMER PATTERNS.

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

No. 2709—Ladies' Dress. Cut in seven sizes, 34, 36, 38, 40, 42, 44 and 46 inches bust measure. Size 38 requires 6 1/2 yards of 36-inch material. Skirt measures about 2 1/4 yards at the foot. Price 10c.



No. 3045—Ladies' Envelope Chemise. Cut in four sizes: Small 32-34; medium 36-38; large 40-42; extra large 44-46 inches bust measure. Size medium requires 2 1/2 yards of 36-inch material. Price 10c.



No. 3044—Misses' Dress. Cut in three sizes, 16, 18 and 20 years. Size 16 will require 3 1/2 yards of 44-inch material. The skirt measures 1 1/2 yard at the foot. Price 10c.

No. 3046-3048—Business Costume. Waist 3046 cut in six sizes, 34, 36, 38, 40, 42 and 44 inches bust measure. Size 38 will require 2 1/2 yards of 36-inch material. Skirt 3048 cut in seven sizes, 22, 24, 26, 28, 30, 32 and 36 inches waist measure. Size 24 requires for

a one-piece skirt, 2 1/2 yards of 48-inch material if cut crosswise, and 2 1/2 yards of 54-inch material if cut lengthwise. With front and back seams—2 1/4 yards of 54-inch material will be required if cut with front edges straight, and 2 1/4 yards if front and back edges are cut bias. The skirt measures about 2 1/2 yards at the foot. Two separate patterns 10c for each pattern.



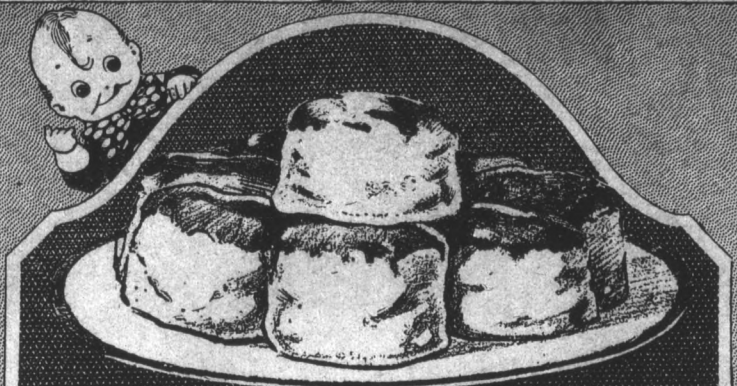
No. 2657—Child's Short Clothes Set. Cut in five sizes, 1, 2, 3, 4 and 5 years. Size four requires 3 1/4 yards of 27-inch material for the dress, 1 1/4 yards for the petticoat and 2 1/2 yards for the combination. Price 10c.

No. 3062—Boudoir Set. Cut in four sizes: Small 32-34; medium 36-38; large 40-42; extra large 44-46 inches bust measure. Size medium requires 1/2 yard for the cap, and 3 3/4 yards for the sack, of 32-inch material. Price 10 cents.



No. 3059—Girls' Dress. Cut in four sizes, 4, 6, 8 and 10 years. Size 10 requires 3 1/2 yards of 44-inch material. Price 10c.

No. 3051—Girls' Coat. Cut in five sizes, 6, 8, 10, 12 and 14 years. Size 12 will require 4 1/4 yards of 44-inch material. Price 10c.



CALUMET BISCUITS—light, flaky mounds of goodness—capped with a tender, done-to-a-turn crust. You'll admit that no other biscuits *can* compare with them—the minute the first batch comes from your oven.



CALUMET
Baking Powder

Makes Most Palatable and Sweetest of Foods

—because it is absolutely pure in the can and in the baking.

—because its leavening strength never weakens. It is always the same, and results are always the same—always the finest.

Absolute certainty—more than the usual raising force—with the moderate price you pay for CALUMET—make it decidedly the most economical of leaveners.

You save when you buy it. You save when you use it. You save materials it is used with.

A perfect product of the world's largest, most up-to-date and sanitary Baking Powder Factory.



Contains only such ingredients as have been officially approved by U. S. Food Authorities. Try it! Drive away bake-day failures. Reduce baking expense. Have most delicious and wholesome bakings.

BEST BY TEST



COLONIAL
SPECIAL FARMER'S
SALT

Is specially prepared for salting meats. Won't cake. You use less because it penetrates the meat very quickly and does not leave a crust on the outside. The soft, flaky grains make Colonial the quickest dissolving salt produced.

THE COLONIAL SALT COMPANY
Akron, Ohio

MICHIGAN FARMER PATTERNS.



2983



2968



2623



2972



2645

No. 2983—A Trim One-piece Dress for Mother's Girl. Cut in four sizes, 6, 8, 10 and 12 years. Size eight will require $3\frac{1}{2}$ yards of 44-inch material. Price 10 cents.

No. 2968—A Chic Model for a School Dress. Cut in four sizes, 8, 10, 12, and 14 years. Size 10 will require four yards of 44-inch material. Price 10 cents.

No. 2971—An Attractive Negligee. Cut in four sizes: Small 32-34; medium 36-38; large 40-42, and extra large 44-46 inches bust measure. Size medium requires $5\frac{1}{2}$ yards of 44-inch material. Price 10 cents.

No. 2623—A Cool, Practical and Comfortable Apron. Cut in four sizes: Small 32-34; medium 36-38; large 40-42, and extra large 44-46 inches bust measure. Size medium requires four yards of 36-inch material. Price 10c.

No. 2972—A Smart Little Frock. Cut in four sizes, 2, 4, 6 and 8 years. Size four requires $2\frac{3}{4}$ yards of 27-inch material. Price 10 cents.

No. 2645—Child's Play Dress. Cut in five sizes, 1, 2, 3, 4 and 5 years. Size four will require $2\frac{3}{4}$ yards of 36-inch material. Price 10 cents.



Pigs' Feet Camouflaged

EVEN a company meal may have pigs' feet as its special dish if they are so camouflaged that no one recognizes them as a part of that highly prized and priced product of the American farm, the pig. If mock duck is desired the feet become duck; if chicken, why chicken they are; if veal, extra cooking until the pork flavor is entirely extracted and plenty of seasoning will give you veal en casserole or veal loaf.

Chicken Loaf Fried (from Pigs' Feet). Remove the toes from eight pigs' feet, wash clean and put in a strong brine for a day, or in weaker brine for two days. Cook five minutes in a kettle of hot water, remove and scrape until white. Put in a third dish, add a half teaspoonful of soda, pour hot water over them and set to soak (not on stove), for three or four hours. Scrape again, put over fire, and boil until very tender. Remove meat from bones, season with salt, pepper, a little onion juice, a half teaspoonful of crumbled dried celery, and put in mold, putting weight over top for several hours. Cut in slices, roll in flour and fry.

Turkey Soup. Take one cupful of the liquor in which the pigs' feet were boiled, having first carefully removed the surplus fat. Add two cupsful of thin milk, one-half cupful of tomato juice, a seasoning of salt, pepper, and onion juice, and a wee dust of sage, but not enough to give a sage taste. Add cooked spaghetti and serve.

Pigs' Feet Salad. Remove the meat from the bones in as large pieces as possible. Add tart

apples cut in squares, celery diced, walnut meats, and a good salad dressing.

Veal En Casserole. Prepare the pigs' feet as for loaf up to the time they are moved from soda water. Rinse, put one can of veal soup in kettle and after removing the meat from the bones cook it in this until nearly all the liquid has boiled away. To what remains, after putting it in an earthen dish, add a seasoning of salt, pepper and celery, half as much bread crumbs as you have meat, a little butter and a tablespoonful of sweet cream. Fill the casseroles (individual), and set in hot oven until brown.

Pigs' Feet Pudding. Cook the feet until tender after they have been parboiled and scraped. Remove meat from bones and to it add the liquor in which the feet were boiled, salt and pepper to taste, add a little tomato catsup. When again boiling stir in slowly one-half pint each of corn meal and flour that has been stirred smooth in cold water. Stir constantly until the pudding crumbles away from side of pot, when it is done. This pudding is good sliced and eaten either cold or fried.

Rabbit Pie. Parboil the pigs' feet, scrape until white, and carefully part at each joint without loosening the meat if possible. Season with salt, pepper and a little celery, or onion juice. Line a pan with rich paste, put in the pigs' feet and enough sweet milk to make the pie of the right consistency and dot the top with butter. Bake until crust is well done.

A Home Maker's Library

(Continued from page 59).

817—How to Select Foods. Part 2, Cereal Foods.

824—How to Select Foods. Part 3, Foods Rich in Protein.

469—Fats and their Economical Use in the Home.

295—Potatoes and Other Root Crops as Food.

85—Fish as Food.

298—Food Value of Corn and Corn Products.

565—Cornmeal and Ways of Using.

34—Meats: Composition and Cooking.

249—Cereal Breakfast Foods.

391—Economical Use of Meat in the Home.

363—Use of Milk as Food.

535—Sugar and its Value as Food.

712—School Lunches.

142—Principles of Nutrition and Nutritive Value of Food.

717—Food for Young Children.

653—Honey and its Uses in the Home.

413—The Care of Milk and its Use in the Home.

183—Meat on the Farm.

807—Bread and Breadmaking in the Home.

162—Cooking Meat.

63—Care of Milk on the Farm.

852—Storage of Vegetables.

871—Fresh Fruits and Vegetables as Conservers of Other Foods.

468—Potatoes and Other Root Crops.

881—Preservation of Foods by Fermentation and Salting.

900—Home-made Fruit Butters.

839—Home Canning by the One-period Cold-pack Method.

841—Drying Fruits and Vegetables in the Home.

861—Removal of Stains from Clothing and Other Textiles.

487—Cheese and its Economical Use in the Diet.

255—Home Vegetable Garden.

154—The Home Fruit Garden, Preparation and Care.

HOME QUERIES.

Household Editor.—I would like to ask the way to prepare beef tripe for use. Both the way to clean, and how to cook.—H. G.

Wash the tripe in several waters, then dust the dark inside coat with quicklime and scrape at once. Cut in four pieces, dip in boiling water and scrape until perfectly white. Then wash in slightly salted water and soak four or five days in slightly salted water, changing the water every day. If it is to be used at once, simmer until tender. If to be kept, simmer for ten minutes, cover with hot vinegar and store in a crock. Tripe may be broiled as beefsteak. Simmer the pickled tripe in water, or milk and water, until it is tender. Then dip each piece in melted butter, or other fat, and broil over a clear fire. An easier way to prepare tripe for serving is to cut the cooked tripe into small strips, brown in two tablespoons of butter in the frying pan in which two tablespoons of chopped onion have been first cooked, then add a cup each of tomato, and celery cut into inch pieces. Cook all slowly until tripe and vegetables are tender. Season with salt and pepper and serve on toast. Many like jellied tripe. To make, cook tripe until tender, then pack in a pan four inches deep—a bread tin will do—and cook down the liquor until only enough is left to cover the meat. Add two tablespoons of gelatin to every quart of liquid and pour over the meat. Set in a cold place to harden.

CROOKED TRAILS AND STRAIGHT.
(Continued from page 57).

too! Wonder if Bucky ain't after some friends of mine."

"Shut up," growled the other.
"Sure you'll be shut up—when Bucky lands you," retorted Luck cheerfully. Then, with a sudden whoop: "Hello, here's a personal to your address. Fine! They're getting ready to round you up, my friend. Listen. The friends of L. C. serve notice that what occurred at the Jack of Hearts is known. Any violence hereafter done to him will be paid for to the limit. No guilty man will escape." So the boys are getting busy. I figured they would be. Looks like your chance of knocking me on the head has gone down Salt River. I tell you nowadays a man has to grab an opportunity by the tail when it's there."

The former convict leaned forward angrily. "Lemme see that paper."

His guest handed it over, an index finger pointing out the item. "Large as life, Blackwell. No, sir. You certainly didn't ride herd proper on that opportunity."

"Don't be too sure it's gone, Mr. Sheriff."

The man's face was twisted to an ugly sneer back of which lurked cruel menace. The gray eyes of Cullison did not waver a hair's breadth.

"It's gone. I'm as safe as if I were at the Circle C."

"Don't you think it?"

"They've got you dead to rights. Read that personal again. Learn it by heart. 'The friends of L. C. give warning.' You better believe they're rounding up your outfit. They know I'm alive. They know all about the Jack of Hearts. Pretty soon they'll know where you've got me hidden."

"You'd better pray they won't. For if they find the nest it will be empty."

"Yes?" Luck spoke with ironical carelessness, but he shot an alert keen glance at the other.

"That's what I said. Want to know where you will be?" the other triumphed.

"I see you want to tell me. Unload your mind."

Triumph overrode discretion. "Look out of that window behind you."

Luck turned. The cabin was built on a ledge far up on the mountain side. From the back wall sloped for a hundred feet an almost perpendicular slide of rock.

"There is a prospect hole down there," Blackwell explained savagely. "You'd go down the Devil's Slide—what's left of you, I mean—deep into that prospect hole. The timberings are rotted and the whole top of the working ready to cave in. When your body hits it there will be an avalanche—with Mr. Former-sheriff Cullison at the bottom of it. You'll be buried without any funeral expenses, and I reckon your friends will never know where to put the headstone."

(Continued next week).

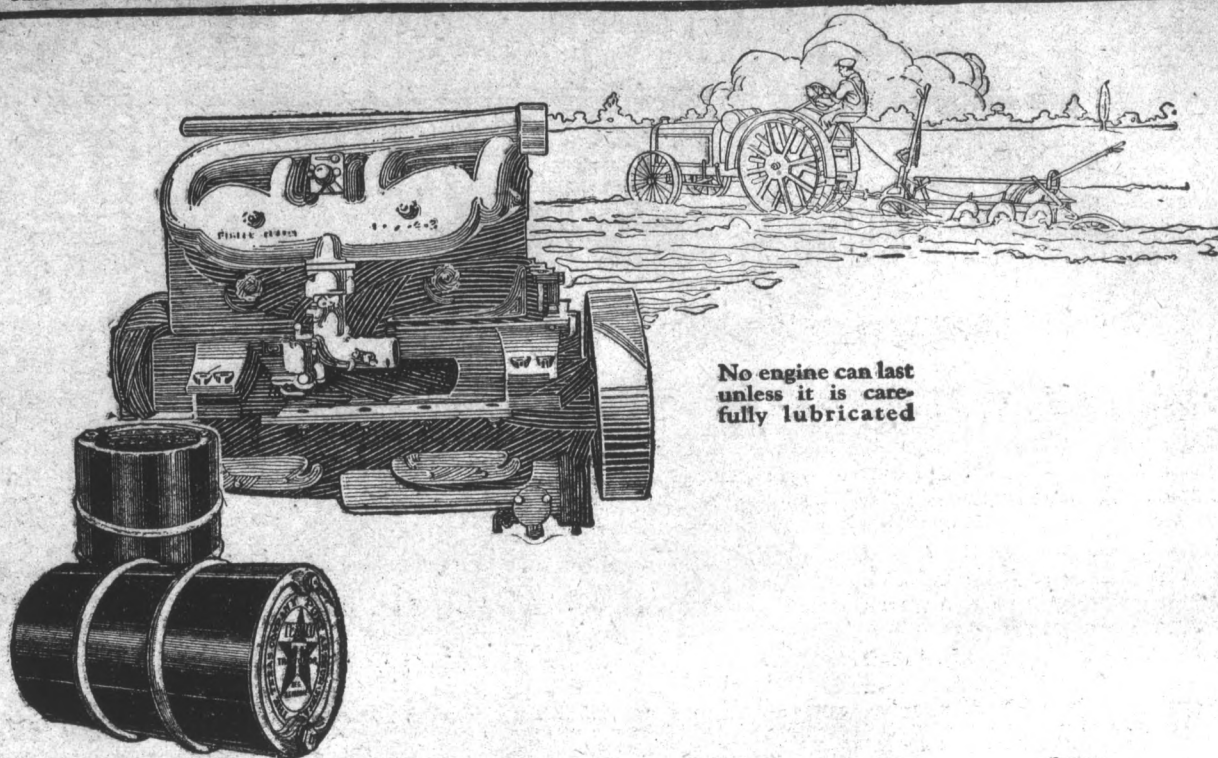
USEFUL AS WELL AS ORNAMENTAL.

Peter Buck recovered from his long siege of typhoid fever and began circulating among his old friends and receiving their congratulations. That is, those who recognized him congratulated him. Before he was ill Pete weighed 220 pounds easy; now his clothes don't fit him, and when he stands on the platform and drops a penny in the slot the little pointer says 130.

"Well, well," said a friend, "where's your bay-window, Buck? I'll bet a fellow could count your ribs."

"Count my ribs," replied Buck, ruefully. "Let me tell you something, Charlie. On Mondays I get into the tub and my wife uses me for a wash-board."

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No engine can last unless it is carefully lubricated

TEXACO

TRACTOR OIL

No tractor can live any longer than its engine. No engine can last, or even perform consistently and successfully, unless it is carefully lubricated. It merits the best oil you can get, and that is Texaco Tractor Oil. Scrupulously refined, it is clean, perfectly uniform, and correctly bodied. It is an oil with "staying" qualities. It doesn't unduly vaporize under engine heat. This makes it, not only efficient in service, but extremely economical—just as are all Texaco red Star and green T products. Texaco Tractor Oil comes in 33 and 55 gallon well-built steel drums, wooden barrels and half-barrels, and five gallon cans.



THE TEXAS COMPANY

Petroleum and Its Products

General Offices Houston, Texas. Offices in Principal Cities

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WHITE LIGHT

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TWICE THE LIGHT
ON HALF THE OIL

FROM KEROSENE
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Make your home bright and cheerful, saving one-half on oil. Government and leading University tests prove this wonderful new Aladdin nearly five times as efficient as best round wick open-flame lamps. Burns 50 hours on one gallon common kerosene (coal-oil). No odor, smoke or noise, no pumping up, easy to operate, won't explode. WON GOLD MEDAL. GUARANTEED. Prove for yourself, without risk, by

TEN NIGHTS FREE TRIAL

that Aladdin has no equal as a white light. If not satisfied, return at our expense. \$1000 given anyone showing us an oil lamp equal in every way to this NEW MODEL 8 ALADDIN.

GET YOURS FREE!

We want one user in each locality to whom customers can be referred. In that way you may get your own without cost. Be the first and write us quick for 10 DAY FREE TRIAL OFFER and learn how to get one FREE.

MANTLE LAMP CO., 418 Aladdin Building, CHICAGO
LARGEST KEROSENE (coal oil) MANTLE LAMP HOUSE IN THE WORLD

Make big money spare or full time. Our easy selling plan makes experience unnecessary. We start you without money. Sample sent for 10 days trial and GIVEN FREE when you become a distributor.

Agents Wanted

FIRST-OLD DETROIT NATIONAL BANK

MEMBER FEDERAL RESERVE BANK

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OR many years a dominant factor in Michigan financial affairs, this bank offers exceptional service to those needing a Detroit connection.

DETROIT

Earn Big Money Cutting Wood

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Our Boys' and Girls' Department

For Father and Mother

E. L. Vincent

THE other day when the packages were being opened on Christmas morning in a home I know of, a little chap bounded up and down like a real jumping-jack when his father opened a long slim bundle. The eyes of the boys were shining like stars. He could scarcely wait for his father to tear the wrappings off that package. And when the contents were brought out to light, what do you suppose it was that the little man had gotten for his father? Two great long files, one a flat one, the other square, and they were as much as a foot and a half long. Just what the farmer man could do with those immense files was a question none of us could answer.

But here is the story of the Christmas files: The little shaver had heard his father speak about needing a file, and when he and his mother were in the store buying gifts for the holiday season, his sharp eyes caught sight of those files, and he at once put in a plea that mother should buy two of them for papa. And so they were bought and placed on the tree for father. When the boy asked his father what he would use those files for, he said without a single bit of anything that would hurt the little man's feelings in voice or expression, "I don't just know yet; but we'll find something to do with them. Papa thanks his little boy for them."

Now, those files never may smooth down the surface of anything the farmer has on the place. They may lie on the shelf in the work shop as long as the father lives, but those two pieces of steel will always be a source of joy to the father and not less to his little boy. For they speak of a love that is

greatly worth while. We all had our laugh privately over those great files, but in our hearts we were glad the little fellow wanted his father to have them.

Farmer boys and girls sometimes think they can do nothing worth while to help father and mother. But the boy I have spoken about kept his eyes and ears open when he was around with his father and when he heard him speak of needing a file he saw a chance to help at Christmas time. So he kept his little secret—it was not easy for him to do it—and don't you think the father's heart was warmed by this evident purpose to add to his happiness.

It is not the biggest things in this world that count for most. The other day an old man found somewhere about the house a paper heart cut out of something white. It was not more than four inches the longest way. On one side in a boyish hand was written: "The clouds are very dark, 'tis true, But right behind them shines the blue."

On the other side was the name of the man's own little boy, now a man with a boy of his own. But that paper heart has cheered many a moment for the father, and he now keeps the little thing as one of his treasures.

Sometimes boys and girls are glad to do errands for father and mother, but they are not quite careful enough to do these things just right. When father asks you to bring him the hammer, what if you take him the saw? It pays to listen carefully and charge the

mind with just the thing that is to be done. I know a man that must have been pretty poor at doing errands when he was a boy. At any rate, when he got to be a man and had a wife, one day they went to town together, some five miles away from the farm; and when the man got home at night, it seemed to him he had forgotten something he ought to have done before starting for home. Come to find out, he had forgotten all about his wife and left her away down town all alone. He had no swift-going automobile, for that was before the days of telephones or motor cars, so he had to drive the slow farm team clear back to get mother. The boy that thinks carefully will not be very apt to do such a thing as that when he gets to be a man.

Seeing things that need doing in the house and doing them before mother says a thing about it, makes mother's heart glad, and the heart of the girl who does this work glad, too. It always brings a glow to the heart of the one who does a good, kind thing, be it ever so little.

But I think keeping free from that miserable thing we call a "grouch" for want of a better name, is about the finest way in the world to help the home folks. Nobody gets much comfort out of a growl or a scowl. The old dog knows the difference between a laugh and an angry word. So does the horse; and all the world is made happier when you and I keep bright and cheery.



Bumper the White Rabbit Plays King

By George Estelbers Walsh

STORY VIII.

Spotted Tail Stirs Up Revolt.

SPOTTED TAIL was in disgrace. Not only had he wickedly thrown Bumper into the deep water in full view of all the others, but he had refused to accept the first challenge made to him. He knew that he could never live down both. One was enough to bring him into contempt, but the two together practically robbed him of all further influence among his people.

But instead of accepting his disgrace in a contrite spirit, he became moody and sullen. When the others, including Fuzzy Wuzz, avoided him, and passed him in silence, he gnashed his teeth in a fine rage.

Then he very naturally laid all the blame to Bumper, excusing himself from any guilt. This did not improve his manners any, and finally, satisfied that he could get no sympathy in his home burrow, he decided to seek revenge outside.

He would spread the tale among all his people in the woods that the white rabbit was a fraud, and that it was his intention to make them all submit to his rule. This would naturally cause general anger, and perhaps stir up a revolt. The coming of Bumper in the woods had not reached far. Rumors spread slowly unless taken up by the birds, and Bumper had made no attempt to interest them in his cause. He was too busy learning the ways of the woods and the duties of a king and

leader.

Spotted Tail decided to get ahead of him and spread the news first, distorting it to suit his purpose. He appealed to Rusty the Blackbird first. "Rusty, you've always been a friend of mine," he said, meeting him one day. "Now, will you do me a great favor?"

"Tell me what it is first, Spotted Tail," was the reply. "It is this, Rusty. Bumper the White Rabbit has come into the woods from somewhere, and proclaimed himself king of all the rabbits. He is a cruel king, and intends to wage warfare upon all the burrows that do not submit to his rule. I want you to spread the news all over the woods, and warn all leaders of burrows to rise in revolt."

Rusty looked at the speaker, and flitted his wings. "No, no, Spotted Tail," he replied. "I'm no carrier of evil messages. Besides, I've met Bumper the White Rabbit, and I liked him. He didn't seem to me cruel or a bad sort of fellow."

Spotted Tail appealed next to Mr. Woodpecker, who listened to his story in silence, and then tapped the trunk of a tree with his long, hard bill. "No, no, no!" he said, keeping time with his taps. "I don't believe your story, Spotted Tail. Bumper's not that kind. Bumper's not that kind. Good-bye."

Spotted Tail looked disappointed. He was very sore and grouchy. It seemed as if the birds as well as the rabbits were all against him. Why did they

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all like Bumper the White Rabbit so much?"

In turn Spotted Tail approached Piney the Purple Finch, Mrs. Phoebe Bird and Mr. Crested Flycatcher, and received from each one the same reply. None of them would undertake the work of stirring up a revolt against Bumper.

He was in despair, and was bemoaning his luck when suddenly a voice startled him. "What's the matter, Spotted Tail? You look black enough to obscure the sun."

It was Shrike the Butcher Bird, whose very name made him dreaded and hated. Shrike had the unpleasant habit of catching insects, lizards, frogs, and sometimes small birds, and sticking them on thorns until he or his mate was ready to eat them.

Spotted Tail looked up and a gleam of hope entered his eyes. Why not ask the Shrike to spread the message that would stir up trouble? By so doing he would accomplish two things. He would get even with the birds who had refused to listen to his plea, and accomplish the downfall of Bumper.

"I have enough trouble to make me look blue," Spotted Tail replied. "Even the brightness of the sun doesn't make me feel happy."

"It must be trouble indeed, then," laughed the Shrike, "for it's a beautiful day, and everybody else feels happy. What is it?"

"Alack! And alas!" sighed the rabbit. "I'm afraid you won't sympathize with me any more than Mr. Woodpecker or Rusty the Blackbird or any of the others. I have told my tale to them, and they only laughed at me."

A wicked gleam flashed from the eyes of Shrike the Butcher Bird. "Rusty and Mr. Woodpecker are self-conceited birds, and what they think don't amount to much. Little I'd care what they said or did."

"But they won't carry my message," added Spotted Tail. "And if no one will do it how can I save the rabbits of the woods from the terrible thing that is coming to them?"

"What is this terrible thing?" queried the Shrike, growing interested.

"It's about Bumper the White Rabbit," continued the dejected rabbit, sighing heavily. "He has come into the woods to rule over all my people, and he is a cruel, selfish king. He intends to make all of us his slaves. He won't listen to reason, but says he's appointed to rule, and any one who disputes his right he will drive from the woods."

The Shrike smiled. "Why don't you drive him from the woods?" he asked. "I never knew you to be afraid of anything. I'd quickly put an end to his rule."

"Quite right, Mr. Shrike. I would do it if it was only Bumper I had to fight. But he has come into our burrow, and by tricks and strange ways won over Old Blind Rabbit, Fuzzy Wuzz, Goggle Eyes, and all the others. They're going to help him to rule in the woods."

"And what is this message you want me to carry to the rest of the rabbits in the woods?"

"I wish to put them on their guard so Bumper cannot deceive them. If they would rise in their might they could overwhelm him even if all my family backed him up. If a revolt isn't begun right away, he will win them by degrees, and then it will be too late."

Shrike the Butcher Bird hesitated for a moment to impale a worm on a thorn for future use, and then said:

"All right, Spotted Tail. I'll carry the message to every rabbit burrow in the woods."

"Oh, Shrike, you're so kind!" exclaimed Spotted Tail; but the bird interrupted him with a harsh laugh.

"It isn't because I like you, Spotted Tail," he said, "that I'm doing this, but just to spite the other birds. I'll punish them for scorning and disliking me. That's why I do it. Good-bye!"

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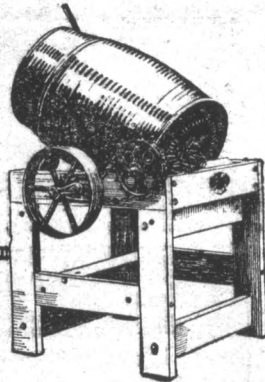
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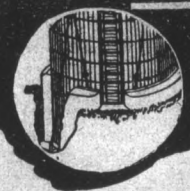
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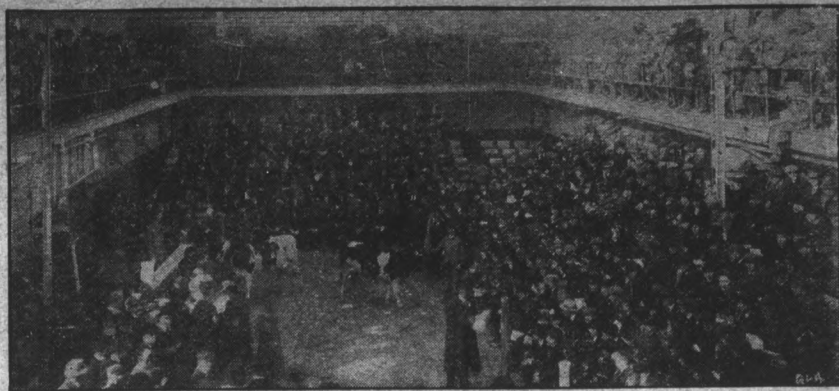
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The Farmer Goes to College

By Ashley M. Berridge

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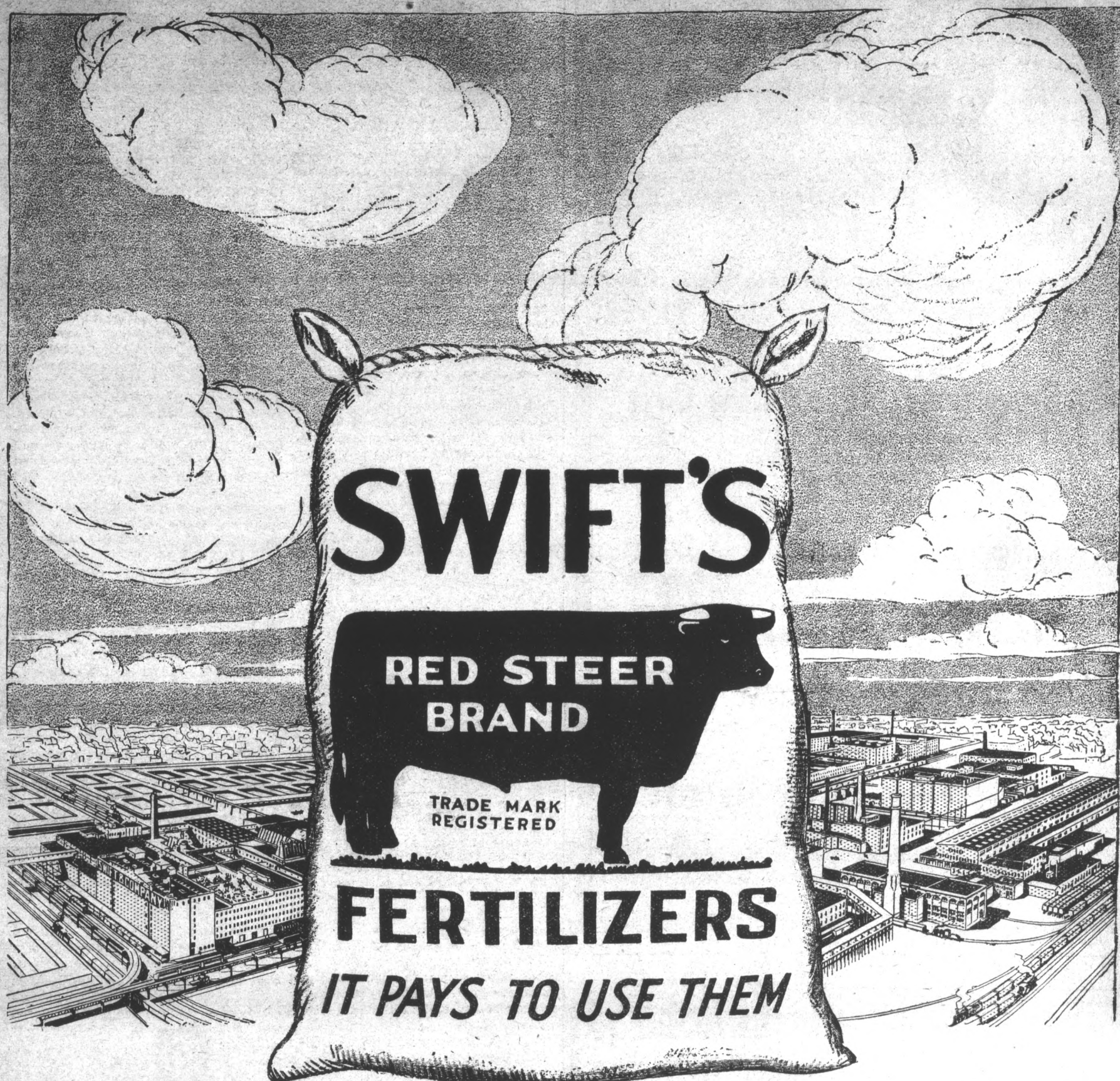
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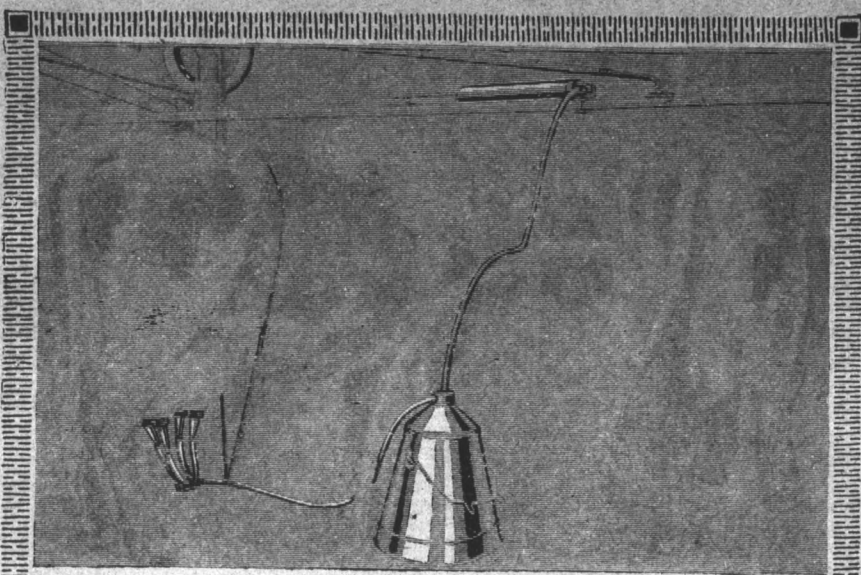
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Certain delivery. Our many up-to-date plants to draw from offset possible local strikes and car or labor shortages.

The best investment you can make.

You get it in Swift's Red Steer Fertilizers containing 14% or more of plant food

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Simplicity Means Low Cost

THE extreme simplicity of Hinman Milkers not only makes them easy to operate and clean, but also means that the first cost and the cost of upkeep are lower than for other and more complex machines. Why pay for expensive extra equipment that will need attention and repairs, when thousands and thousands of dairies have proved that it is unnecessary with the Patented

HINMAN MILKER

There are so many advantages—in cost, in efficiency, in comfort to cows, in ease of cleaning, in SIMPLICITY—with the Hinman, that it is worth your while to write for

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BREEDERS' DIRECTORY

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

Wildwood Farms Angus

Bulls in service are, Black Monarch 3rd, Grand Champion Bull, Michigan State Fair 1914, 1915, 1916.

Imp. Edgar of Dalmeny, Grand Champion Bull, Michigan State Fair 1918.

President Wilson 4th, Grand Champion Bull, Michigan State Fair, 1919.

We offer for sale 6 choice young bulls by Black Monarch 3rd.

Edgars Calves, are as yet too young to offer for sale but are a promising lot of calves, and are going fast.

A visit will interest you, write for particulars to

WILDWOOD FARMS ORION, MICHIGAN

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

WOODCOTE AUGUS 1919 Winnings to Date

Mich. State Fair	12 1sts	2 cham.	1 gd. ch.
N. Y.	9 1sts	2 "	1 "
West Mich.	11 1sts	2 "	2 "
Saginaw	10 1sts	4 "	2 "

International—2 firsts including the undefeated calf herd for 1919.
Every Animal Bred At
WOODCOTE STOCK FARM, Ionia, Mich.

Cloverly Angus, 5 cows with calves, rebred; 2 bred cows; 1 two year old, 2 yearling heifers. Price \$2800. 6 yearling bulls, \$225 each. Geo. Hathaway & Son, Ovid, Mich.

For sale at reasonable prices, several Aberdeen Angus bull calves and yearling bulls sired by Lord Ida 2nd No. 248330. Lang Bros., Davison, Mich.



SKIM-MILK WHEY.

How much is skim-milk whey worth for pig feed? The creamery here make a cheese of the skim-milk. I can get the whey for ten cents a ten-gallon can delivered at my door. Compared to other feed, is it worth anything for feed? They run this down the creek and the ten cents is for hauling.

Allegan Co.

C. D. W.

Skim-milk whey ought to be worth just about as much as whole milk whey. When you make cheese out of whole milk the butterfat is all supposed to go into the cheese, if the cheese-maker understands his business. Full cream cheese is composed of butterfat, casein and water in about equal parts. Skim-milk cheese contains little or no butterfat. It is simply casein and water, but the man who makes skim-milk cheese would have no way of taking anything out of the milk that could not be taken out in making full cream cheese, therefore whey ought to be equal.

Whey isn't as valuable as skim-milk as a food, because it does not contain casein, one of the principal food nutrients of skim-milk. But it does contain albumen, milk sugar, ash, etc., and is a product that ought not to be poured into the creek. Whey is ordinarily considered to be about one-half the food value of skim-milk. According to this you can well afford to pay the present price for whey. It ought to be fed in connection with oil meal and a little corn meal, equal parts, to get best results for hogs.

C. C. L.

SEEDING ALSIKE AND TIMOTHY.

I have just moved onto a 160-acre farm, consisting of a gravelly and sandy soil. Wishing to sow eight or ten acres of alsike and timothy I am wondering whether to use a field that has been devoted to rye or one where corn was produced the past year. The corn in places looked poor. How would you prepare the field? Would you spread the lime on the field before plowing, or after?

Cass Co.

F. S. M.

You do not say whether you wish to sow a nurse crop with your alsike and timothy, or not. Ordinarily people sow oats or barley and at the same time seed to alsike and timothy. They would get the crop of oats or barley the first season, and the next year a crop of hay.

I would use the corn stubble and seed to alsike and timothy. If you seed to grass alone prepare the land by harrowing and disking as early in the spring as you can get on the land to work. Make a good fine seed bed and sow about six or eight quarts of alsike and timothy to the acre. This should be very lightly covered with a fine-tooth harrow and it would be a good plan to roll the ground as soon as harrowed.

This land being in very poor condition I would use two or three hundred pounds of good fertilizer per acre before the grass seed is sown and harrowed into the soil. Should weeds get a start of the grass clip with mowing machine, setting the mowing machine cutter bar high so as to kill weeds and cut off as little as possible of the grass. With a fair season you ought to get a good fair crop of hay late in the season.

If you desire to sow this field to oats or barley, seed the alsike and timothy at the same time you do the grain, and use a good application of commercial fertilizer. Of course, the grass will not make very much of a growth until after harvest and there will be little chance of a crop until next year, but you will have the crop of oats and bar-

ley for your labor and expense this year. It would be a splendid idea to apply lime just before seeding, and harrow it so that the lime will mix thoroughly with the soil. C. C. L.

WHY WE BREED ABERDEEN-ANGUS CATTLE.

(Continued from page 35).

they stand the head will be set in a natural way and look as though they knew they were being shown. A straight back line, with a prominent loin, and free from patchiness are important factors in selecting show animals. Another factor of importance is plenty of spread in the hind quarters, plenty of depth and as straight an underline as the topline, giving an equal balance throughout the body when you look sideways. An animal of this sort will usually turn out in a way that you would expect. It is disappointing to spend one's time and feed conditioning an animal that fails to round out in good condition for exhibition.

A good many farmers have an idea that the Angus cattle are timid and difficult to handle, but this is not true, for they are very docile and will learn readily what is wanted of them, and if properly handled will be as quiet as any breed treated under the same conditions.

It is asked by many farmers why the Aberdeen-Angus does not rank as high as some of the other breeds in the matter of sale prices. The only solution I can offer is that the breeders of other breeds have worked together longer and cooperate with greater harmony. In many instances they are men of wealth and understand the real value of cooperation in business, while the Angus breeders have at times been skeptical and more inclined to paddle their own canoes. The Angus is essentially a poor man's breed because they will do more for him with the same outlay of capital than the other breeds.

The Angus cattle can be fed at a low cost, and if finished, and the market goes down, they can be held at less cost and shrinkage than other cattle. They can also be shipped to market with less shrinkage and look better when they get the required fill.

I consider that the Angus have an advantage over the other breeds because they are compact, easily filled out and look round and plump to the buyer when he looks them over in the pen, and they have that heavy dressing percentage that pleases the packer, and for that reason will always sell a little higher on this account. I feel that I have answered your question as well as I can, and I know that there are many breeders of Aberdeen-Angus cattle in Michigan who have the same liking for the breed.

We have at this time over fifty active breeders in all sections of the state, more especially in the northern and eastern counties, and many of these men are getting a good start in the business. They are becoming so numerous that we are beginning to feel the need of a regular annual sale. This we intend to hold in March at Saginaw. It will be a combination sale, so that all the breeders will have an opportunity to dispose of a few of their surplus animals. We plan to make this an annual affair and undoubtedly have other sales at different points, depending upon the demand for cattle, and where we believe the sales would do the most good to stimulate the breeding of Aberdeen-Angus cattle in Michigan.

GUERNSEYS

Butter Fat at Lower Cost Per Lb. No other breed can produce rich golden butter fat as cheaply as the

Guernsey Official yearly records show—one cow has given 24,008 lbs milk and 1,098 lbs butter fat. Write for our free booklets. The American Guernsey Cattle Club, Box 140, Peterboro, N. H.

GUERNSEY BULLS FOR SALE

Atta Boy of Maple Crest born April 1919. Sire imp. Spotswood Sequel A. R. 19 A. R. daughters Dam imp. Albinia price \$175.00. Pride's May King of Avondale born June 1919 Sire Nora's May King of Bailey Falls dam Queens Pride of Harrington A. R. price \$150.00. May Boy of Halcyon born April 1917 Sire Byron S. dam Mixer Mildred price \$250.00.

Avondale Farms, Wayne, Mich.

Registered Guernseys

A two year old bull, and nearly four months old bull calf. F. E. ROBSON, Room 307, M. C. B. R. Depot Bldg., Detroit, Mich.

REGISTERED GUERNSEYS

Those choice heifers we adv. have gone to good homes. We have a fine bull calf—worth the money. J. M. WILLIAMS, North Adams, Mich.

GUERNSEY bull calves whose sire's dam made 19,460.20 milk, 778.80 fat. Their mother's sire's dam made 15,102.10 milk, 778.80 fat. T. V. HICKS, Battle Creek, Mich.

GUERNSEYS Reg. bull calves, 6 mos. old at \$75 each. Write your requirements. Walter Phipps Farms, 80 Alfred St., Detroit, Mich.

Additional Stock Ads. on Page 68

CHICAGO CATTLE MARKET.

NEVER has there been a time when the percentage of choice-fed cattle offered on the market was as small as today, nearly all of the finished beeves having been sold some weeks ago for the holiday trade. A few choice to fancy steers have been sold recently for \$17.50 to \$19.50 per 100 pounds, with not much trading above \$16 and sales largely within a range of \$11.50 to \$15.50, stockers and feeders selling at \$6.50 to \$12.50. Cows at \$11.50 to \$13.50 and heifers at \$12 to \$14 are scarce, sales of cows for dressed beef purposes being largely at \$8.50 to 9.50 and heifers at \$8.50 to \$10.75. Canning cattle are selling at extremely low prices, cows of this class going as low as \$5.00 to \$5.50. Shippers have been in the market buying bologna bulls around \$7.50 to \$8.50, with a few heavy bulls selling at \$8.75 to \$9.00, while most of the fat butcher bulls went for \$10.50 to \$11.75. Steers selling for \$17 to \$17.50 have not been on feed more than ninety days and show a good margin of profit, while the \$12 to \$13 offerings are apt to be losers for their owners. The \$9.50 to \$12 class of steers are taken largely by country shippers, who figure that they will prove profitable for finishing as beef cattle. Most of the eastern stock feeders have completed their purchases, and Ohio and Pennsylvania feeders are always in the habit of filling their requirements before January. But there is a tendency to buy cattle for grazing next spring ahead, and light cattle are sold for this purpose at \$9.50 to \$10.50, cattle weighing around seven to eight hundred pounds being taken. Where cattle are wanted for a short feed, quality is not essential, but where they are intended for long feeding, they must be good in quality.

SOME GOOD LEG BANDS.

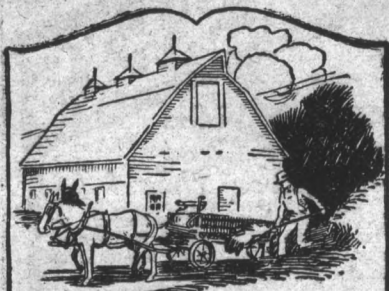
IN marking hens with leg bands we have saved time by purchasing the bands which are made for that purpose rather than making them. Home-made bands can be constructed of wire but it takes time and they are usually not as satisfactory as the commercial article which sells at a moderate price. We like the single coil spiral bands which are made in several colors. They slip on quickly and stay. The birds cannot pick them loose.

The colored spiral bands are useful to distinguish the pullets, the year-old and the two-year-old hens. The early hatched pullets and cockerels can also be marked with the spiral bands to separate them from stock hatched a few weeks later. These spiral bands are also made with a long lap at a slightly increased expense. Possibly they might stay on better but the single coil with the short lap has proven satisfactory.

The spiral bands are also made with a double coil and these have the advantage of being more easily seen. The aluminum bands with numbers are handy in trap-nesting work or for designating certain hens of special value when they are culled to find the best egg-laying types. We like the bands the best that are the least complicated. One type consists of double clinches for locking around the fowl's leg. When once clamped down with pliers it is not apt to work loose. There are adjustable bands made which are suitable for birds of all sizes but we do not like them as well as the system of clinching is more complicated and occasionally we have had such a band work loose. Bands that are sealed with a soft metal rivet are valued highly by some poultrymen who wish to take no chance of losing good records by finding hens with missing bands.

R. G. KIRBY.

More Dollars From Fewer Acres

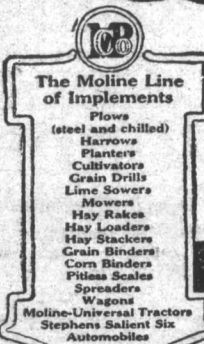


The Moline line of Wide Spread Manure Spreaders includes three styles, each particularly well adapted for the work for which it is intended. Moline Wide Spreader No. 38 is built with 38-inch beater for use with two horses. It is a very handy machine and one that can be handled conveniently in tight places.

Where a larger machine is desired there is the Moline No. 50 Spreader built with 50-inch beater and fitted with three-horse eveners. Small farmers and truck gardeners will find the third style very satisfactory. This is known as the Moline Wagon Box Spreader and is built in standard 38-inch width for use with two horses.



No. 50



The Moline Line of Implements

Plows (steel and chilled)
Harrows
Planters
Cultivators
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Moline-Universal Tractors
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Automobiles

Lowdown, light running, and spread the manure, thoroughly pulverized, over a wide spread. Excellent work is assured through the use of a second beater which cuts and tears the manure, casting it well to each side. High grade materials, expert workmanship and the most modern design combine to make Moline Wide Spread

Manure Spreaders the most satisfactory machines to use in building up the soil.

Now is the time to see your Moline Dealer about getting a Moline Spreader or write us for full information.

Moline Plow Co., Moline, Ill.

Nearest Branches at Jackson, Columbus and Indianapolis

SINCE 1865 "MOLINE" ON A FARM IMPLEMENT HAS BEEN A MARK OF QUALITY

GERMOZONE The Best Pet Stock Remedy

For Poultry, Pigeons, Dogs, Cats, Rabbits, Parrots, Canary and other birds or pet animals. Germozone is a universal and safe remedy for colds, snuffles, roup, sore throat, loss of voice or singing, influenza, bowel trouble, distemper, sore eyes or ears, canker, gleet, loss of fur or feathers, sores, wounds, skin disease, or other affections of skin or mucous membrane.

"My hens have never done so well as this year and haven't lost a single chick" - Mrs. Flora Kapple, Walker, Ia. "Simply grand for rabbits" - L. W. Browning, Boone, Ia. "Cannot praise Germozone enough. I use it for chickens, stock and household" - Mrs. Wm. Hoeppel, Hugo, Okla. "My bird puppies don't know what distemper is and I never had such good success before with chicks" - Carly Smith, Kennett, Mo.

Germozone is sold by most drug, seed and poultry supply dealers, or mailed postpaid in 25c, 75c and \$1.50 packages from Omaha. Book on treatment of diseases free with each package.

GEOR. H. LEE CO. Dept. F-39

OMAHA, NEB.

\$12.95 Buys 140-Egg Champion Belle City Incubator

Hot-Water, Copper Tank, Double Walls Fibre Board, Self-Regulated, With \$7.55 Hot-Water 140-Chick Brooder - both only \$18.50

Freight Prepaid East of Rockford. Guaranteed. My Special Offers provide ways to earn extra money. Order Now, or write for book, "Hatching Facts." - It's Free and tells all. Jim Rohan, Pres. Belle City Incubator Co., Box 14, Racine, Wis.

Keep Your Hens a Laying

Trust your hatching to time tried and tested

"SUCCESSFUL" Incubators and Brooders Used by the big money makers who stay in business year after year. Poultry Lessons Free. Booklet, "How to Raise 48 out of 50 chicks," 10 cents. Catalog Free. Write today. One Moline Incubator Co., 369 Second Street, Des Moines, Iowa

130 Egg Incubator and Brooder

If Ordered Together, Freight Paid east of Rockford. Hot water copper tanks, double walls, dead air space, double glass doors, all set up complete, or 160 Egg Incubator and Brooder \$20.00 FREE Catalogue describing them. Send for it TODAY or order direct. (2) Wisconsin Incubator Co., Box 92 Racine, Wis.

150 EGG CHICK Incubator & Brooder

both are made of California Redwood. Incubator covered with asbestos and galvanized iron; triple walls, copper tank, nursery, egg tester, thermometer. 30 days' trial - money back if not O.K. Write for FREE Catalog. Ironclad Incubator Co. Box 92, Racine, Wis.

Sacrifice Sale. Forty Incubators, like new, also some brooders. Write for prices. PHILIP CONDON, Box 118, Westchester, Ohio.

62 BREEDS PROFITABLE

Pure-Bred Chickens, Geese, Ducks, Turkeys, Hardy Poultry, Eggs and Incubators at lowest prices. Pioneer Poultry Farm. Valuable poultry book and catalog FREE. F. A. NEUBERT, Box 166 Mankato, Minn.

I'll Start You With leading varieties of Poultry, Pure Bred Poultry, Incubators, Grain Sprouters, Supplies, Eggs, Baby Chicks. Highest quality. Lowest possible cost. Send for illustrated book and price list. A regular information bureau free. Address Nichol's Poultry Farm, Box 28, Monmouth, Ill.

DAY OLD CHICKS

Guaranteed to 1,500 miles. Eggs for Hatching, Bar. Rocks, S. C. W. Leg., S. C. & R. C. Reds, W. Wyand., Buff & W. Orp. Catalog free. GOSHEN POULTRY FARMS, R. 19 Goshen, Indiana

Poultry Book Latest and best yet: 144 pages, 215 beautiful pictures, hatcheries, rearing, feeding and disease information. Describes busy Poultry Farm handling 63 pure-bred varieties and BABY CHICKS. Tells how to choose fowls, eggs, incubators, sprouters. Mailed for 10 cents. Berry's Poultry Farm, Box 136, Clarinda, Iowa

64 BREEDS Most Profitable chickens, ducks, geese and turkeys. Choice pure-bred, northern raised. Fowls, eggs, incubators at low prices. America's greatest poultry farm. 27th year. Valuable new 108 page book and catalog free. R. F. NEUBERT Co., Box 214 Mankato, Minn.

POULTRY

HOMESTEAD FARMS DAY OLD CHICKS

New Spring Catalog

Those who want Day Old Chicks should order early. There will be a big demand again this year. With eggs 75 cents in your home town, people will buy heavily of the laying breeds. For six weeks we have booked orders for spring delivery.

Let us know now the breed you will want. You will be especially interested in the extra heavy laying breeds: White Leghorns inspected and certified as heavy producers by the Poultry Extension Specialist of the Michigan Agricultural College.

Eggs for Hatching - Sittings or for incubators, all breeds. Eggs for Broilers.

Cockerels - We still have a few strictly high quality Cockerels. Let us describe them and give you our price: Barred, White and Buff Rocks; R. and S. C. Reds; White Wyandottes; S. C. Black Minorcas; W. and B. Leghorns, both combs in each. Yearling Pullets - S. C. Brown Leghorns. One pen White Rocks.

Let us know what you will want and enter your name now for new Catalog.

STATE FARMS ASSOCIATION

Desk F. Kalamazoo, Mich.

Barred Rocks. Choice Cockerel and Pullets from pure bred quick maturing heavy laying strain. Cockerel \$4.00 to \$5.00. Pullets \$3.00 to \$4.00. Pens \$15.00 to \$25.00. H. J. PATON, Route 3, Box 115, Ypsilanti, Mich.

Baby chicks: Standard Bred S. C. White and Brown Also English White Leghorns. Bred by Jay, large white eggs. Safe arrival guaranteed, shipped up to your door by parcel post. Free catalogue with list. WOLVERINE HATCHERY, R. 2, Zeeland, Mich.

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 Plymouth Rock Cockerels, large, from prize-winning laying strain. \$5.00 each. J. A. BARNUM, Union City, Mich.

Barred Rock Baby chicks a specialty. We are booking orders now for 1920. Apply for terms. H. H. PIERCE, Jerome, Mich.

Buff Leghorns and White Leghorn cockerels at reduced prices, if ordered soon, from great laying strains. Dr. William Smith, Petersburg, Mich.

Barred Rock cockerels, Ringlet strain, \$3.00 each; pullets \$2.00. A. A. WOOD & SON, Saline, Mich.

BABY Chicks by parcel post. S. C. White Leghorns and R. O. Rhode Island Reds. Booking orders at \$14.50 per 100. Andrew J. Goret, R. 1, Corunna, Mich.

CHICKS We have shipped thousands each season since 1904. Are booking orders now for Spring delivery, booklet and testimonials. FREEPORT HATCHERY, Box 12, Freeport, Mich.

Cockerels and yearling hens, Orpingtons, Rocks, Reds, Wyandottes, Leghorns, Spanish, Minorcas, Campines. Tyrone Poultry Farm, Fenton, Mich.

DANGER If chick and eggs are not shipped right. 100,000 Chix this season. Best Blooded stock ever produced at low prices quoted. Selected Utility, Exhibition trap-nested stock. 16 varieties. Hatching eggs. Hens, Ducks, Turkeys, Geese. Book your orders early. Avoid disappointment. Stamps appreciated. Beckman Hatchery, 25 E. Lyon, Grand Rapids, Mich.

Fowler's Buff Rocks: Cockerels, cock birds and pullets. Write for prices. R. B. FOWLER, Hartford, 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.

John's Big beautiful Barred Rocks are hen hatched grow quick, good layers, sold on approval, males \$4 to \$8. Circulars photos. John Northon, Clare, Mich.

Parks Strain Barred Rock Cockerels, \$4.00 each. Pullets \$3.00. C. H. WRIGHT, L. B. 103, Ypsilanti, Mich.

R. C. Br. Leghorn Hens and unrelated Cockerels. Mrs. CLAUDIA BETTS, Hillsdale, Mich.

Rhode Island Reds, R. C. large fancy cockerels at \$4 each. BURT Sisson, Lima City, Mich.

S. C. R. I. Reds. Choice cockerel and pullets from pure bred quick maturing heavy laying strain. Cockerels \$4.00 to \$8.00. Pullets \$3.00 to \$5.00. Pens \$15.00 to \$25.00. H. J. PATON, Route 3, Box 115, Ypsilanti, Mich.

Silver, Golden and White Wyandottes. Choice quality cockerels and pullets \$3.00 to \$5.00 each until Dec. 15. C. W. Browning, R. 2, Portland, Mich.

Vigorous Barred Plymouth Rock Cockerels. Trap-nested M. & C. 250 egg strain. Improve your flock, \$3 to \$5 each. Rosemary Farms, Williamston, Mich.

Poultry Ads. Continued on Page 71

GUERNSEYS—REGISTERED BULL CALVES

Containing blood of world champions.
HICKS' GUERNSEY FARM, Saginaw, W. S. Mich.

Watch Herd (State and Federal Tested) Ypsilanti, Mich. Offers young sires out of choice advanced registry dams and King Kornelke Artie Vale: Own dam 34, 16 lbs. butter in 7 days; average 2 nearest dams 37.61, 6 nearest 33.93, 20 nearest 27.93.

\$125 Liberty Bonds or terms gets bull calf born May 23, 1/4 white, 9 nearest dams avg. 23.85 lb. bu., 533 lb. milk in 7 days. Dam gddam. of Pontiac Cornucopia M. L. McLAULIN, Redford, Mich.

Guernsey Bull, Registered, For Sale, 8 Mo. old from A. R. dam. Write for particulars. C. A. HENNESEY, Watervliet, Mich.

Reg. Guernsey Bull calf 4 mo. old for \$75, delivered. Sire Deasie's May Rose of Allenwood 53278. His 5 nearest dams average 726 lbs. fat, dam of calf imp. E. A. BLACK, R. 3, Howard City, Mich.

For Sale Registered Guernsey Bull calves, sired by Starlight of Bonayre 53061, undefeated bull, yet cheap. John Ebels, R. 2, Holland, Mich.

Facts in BLACK & WHITE

Wisconsin Adds to the Holstein Evidence

Eleven grade Holsteins proved to be the highest producing herd tested by the Waupaca and Butternut Ridge Cow Testing Association of Wisconsin. They were owned by Ira Farley, and returned him an average profit of \$72.02. His best grade Holstein cow was Brownie, a ten-year-old, and she produced 10,201 lbs. of milk during the year, yielding a profit of \$113.54. This is but one random instance of the profit to be derived from grading up a herd with a Holstein bull.

Read the reports of many tests in our free booklets.

THE HOLSTEIN-FRIESIAN ASSOCIATION
164 Hudson Street
Brattleboro, Vermont

"Top-Notch" HOLSTEINS

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

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 30 lbs. Write for pedigrees and quotations, stating about age desired.

TRAVERSE CITY STATE HOSPITAL
Traverse City, Mich.

GET A BETTER BULL WINNWOOD HERD

BREEDERS OF
Registered Holstein-Friesian Cattle

We have bull calves ready for service and a new crop of baby bulls coming all of Maplecrest breeding. We have one of the largest pure bred herds in Michigan and this will be the last chance to buy sons of Flint Maplecrest Boy, cheap. For his daughters start to freshen this winter and they will all go on yearly tests. We own them all and will develop them. Don't wait, a bankable note is the same as cash to us and our price will be right. Tell us your wants.

JOHN H. WINN, (Inc.)

Lock Box 248, Roscommon, Mich.

Alcartra Pontiac Butter Boy

One of the best sons of the \$50,000 bull now has a list of Jr. two year old daughters surpassed by none.

Lucy Canary De Kol 24.78-lbs., Lakeside Pontiac Queen 23.12-lbs., Alcartra Pontiac Elzevere Vale 22.70-lbs., Alcartra Pontiac Hengerveld Girl 21.75-lbs., and several others above 20-lbs.

We have for sale one of his sons ready for heavy service from a 24.24 Jr. 4 year old, that gave over six hundred pounds of milk in 7 days. He is a splendid individual fit to head any herd. Price \$300.

SINDLINGER BROS., Lake Odessa, Mich.

GRADE UP YOUR HERD

with a young son of Spring Farm Pontiac Cornucopia 18th, whose five nearest dams have an average record of 36.22 pounds of butter in seven days. Have several priced to sell.

JOSEPH H. BREWER, Grand Rapids, Michigan

28 lb. Bull Calf

Dam, Canary Tet Hengerveld, 7 day, 4 year old record, 28.24 butter. She is a daughter of Woodcrest Hengerveld De Kol, a son of Hengerveld De Kol, and a sister to Nancy Lucy Hengerveld, a 4) lb. cow. Calf sired by a son of Rag Apple Kornelke 8th. Born Nov. 26, 1918. Splendid individual, ready for service. Dam will freshen soon and is a good 30 lb. prospect. Priced very low. Write for full pedigree and particulars.

WAH-BE-ME-FARMS,
WHITE PIGEON, MICHIGAN

Seven Yearling Heifers

FOR SALE—These heifers are of King Segis and Pontiac Kornelke breeding. All will be bred this month to "The Milk and Butter Champion", the only bull in the world whose dam is a world's record milk cow and whose sire's dam is a world's record butter cow, and both are yearly records. A good chance to get started right. L. E. CONNELL, Fayette, 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.

Reg. Holsteins Herd bull, a double grandson of De Kol 2da, Butter Boy 3d. A splendid individual, kind, sure server. Dams record at 6 yrs. butter 7 days 28.53 lbs., milk 619. 365 days at 2 1/2 yrs. butter 802 lbs., milk 18622 lb. W. B. Reader, Howell, Mich.

CLUNY STOCK FARM

A Semi-Official Bred Bull to Head Your Herd
Maplecrest Application Pontiac No. 132652, heads Our Herd

His dam's record is 1344.3 lbs. butter, 23,421.2 lbs. milk in 365 days, and 35,103 lbs. butter and 615.6 lbs. milk in 7 days.

One of his sons from our good record dams will carry these great blood lines into Your Herd.

For Pedigrees and Prices write to
R. BRUCE McPHERSON, Howell, Mich.

HOLSTEIN BULL

half brother to Rag Apple the Great, the \$125,000 bull. His dam a 19-lb. 3 year old, granddaughter of Colantha Johanna Lad and World's Record Cow, Pontiac Gladi, a daughter of Hengerveld De Kol. He was sired by Rag Apple Kornelke 8th. Will be 5 years old next March. A chance to get the best blood lines at a big bargain.
ALBERT G. WADE, WHITE PIGEON, MICH.

LONG DISTANCE

Holstein calves of either sex. Can spare a nicely marked heifer backed by seven dams that average above 1200 lbs. butter and 24000 lbs. milk in one year. Choice Duroc Sows. A. FLEMING, Lake, Mich.

Reg. Holstein Bull, nicely marked, born Dec. 1, 1913, choice breeding, \$80 Reg. and Del. J. Robert Hicks, St. Johns, Mich.

REGISTERED Holstein bulls sired by King Zerna Alcartra Pontiac, son of the \$50,000 bull; some from good A. R. O. cows. C. H. Giddings, Gobleville, Mich.

MICHIGAN JERSEYS

Michigan is an ideal place for the raising of Jersey Cattle and there are no better cattle for dairying than Jerseys.

Jerseys mature early, live long, produce persistently, give the greatest amount of butter-fat obtainable from every pound of feed. They are hardy and vigorous, always on the job and the greatest mortgage-lifters that ever entered a barn.

Michigan should have more Jerseys and the Jersey breeders of the state are anxious to cooperate with anyone who is interested in successful dairy farming.

MICHIGAN JERSEY CATTLE CLUB

The Wildwood Jersey Farm

Bulls for sale by Majesty's Oxford Fox 134214 and Eminent Lady's Majesty 150934, and out of R. of M. Majesty dams. ALVIN BALDEN, Capac, Mich.

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

Maple Lane B. of M. Jersey Herd. For sale Blue Belle's Premier son of Sophie's Premier that sold for \$1750 this fall. Bulls and bull calves. R. O. Red cockerels. IRWIN FOX, R. 3, Allegan, Mich.

LILLIE Farmstead Jerseys—A few heifers bred to freshen soon, heifers bred to freshen next fall, 3 cows. R. of M. bull calves. C. C. Lillie, Coopersville, Mich.

Bulls ready for service from our herd bull Marguerite's Premier, gddam. of Pops 39th of Hood Farm, and cows now on test for R. of M. Smith & Parker, Howell, Mich.

FOR SALE Registered Jersey Cows with Calves and Herd Sire. Latter carries 32% of Sophie 19th blood. CHAS. B. COOK, R. 1, Box 103, Owosso, Michigan.

For Sale. Five Registered Jersey Cows. Fresh or soon to freshen. Also young bulls ready for service. H. C. & A. H. Donaldson, Fenton, Mich.



Put a Greater Value on Your Cows — Register Them!

"SCRUBS" cost more in the long run, no matter how little you worry or care about them. A pure-bred cow that is registered pays many times over.

If you have Jerseys now that are pure bred, or if you contemplate getting Jerseys, let us mail full information and application blanks for registering. The registering cost is a trifle when you consider how it adds to the value of the cow or calf.

Write today for Jersey facts and registering information.

The American Jersey Cattle Club
322-M West 23rd Street
New York, N. Y.

HARWOOD HEREFORDS

Young stock both sexes for sale.
"Keep On 508019" heads the herd. Write us your wants. Visitors welcome.

JAY HARWOOD, Ionia, Mich.
Farm six miles south of Ionia.

HEREFORDS

of Quality. Renner Bullions sired by the \$9500.00 Bullion the 4th, now heads our herd. Inspection invited. COLE & GARDNER, Hudson, Mich.

HEREFORDS

3 Prince Donald, 3 Farmer and one Polled bulls from 7 to 13 months old, for sale.

ALLEN BROS. MICHIGAN
PAW PAW,

Herefords. Just purchased 3 new herds, now have 130 head; we offer you anything desired either sex, horned or polled, any age. Priced reasonable. THE McCARTYS, Bad Axe, Mich.

HEREFORDS: young stock of either sex for sale. RALPH S. SMITH, Kewadin, Mich.

Hereford Herd Headers only the upper crust retained, undesirable unsexed, not the largest herd, but few as good. Come and see. Farm adjoins town. E. J. Taylor, Fremont, Mich.

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

For Sale Shorthorns of Quality Scotch and Scotch Topped descendants of Archers Hope, Avondale, Maxwellton Sulton and White Hall Sulton. Model Type, by the Oscola Co. Shorthorn Breeders Ass. John Schmidt, Sec. Reed City, 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.

Richland Stock Farms

Home of the Michi an Champions.
Shorthorn Sires in Service:

IMP. Lorne, IMP. Newton Champion, Sterling Supreme. Why not buy a young bull to head your herd that carries the blood that is making Shorthorn History. Only a few real headers left. Write your wants.
C. H. PRESCOTT & SONS, Tawas City, Mich.

Ionia Co. Breeders Ass'n

Have for sale Reg. Shorthorns, Herefords, Angus, Holsteins, Jersey, Red Polls and Brown Swiss Cattle. Shropshire, Hampshire and Rambouillet sheep, Poland China and O. I. C. swine.

FRED W. BRICKLEY, Sec., R. 3, Ionia, Mich.

Scotch Shorthorns Imp. Royal Bruce heads a select herd of females consisting of the Rosewood, Lovely Orangeblossom and Roan Lady and several other good females. Two bulls ready for service for sale also a few females. CARP BROS. & CO., Bad Axe, Mich., Address Norman Car, Secretary.

MILKING SHORTHORNS. Clay bred bull calves. Davidson and Hall, Tecumseh, Mich.

Branch County Farm breeders of American Polled Shorthorns. Herd headed by Grand Champion bull, Sultan's Standard, son of Sultan Creed. For sale choice young bulls & heifers priced to sell. Address G. E. Burdick, Mgr., Coldwater, Mich.

MEADOW HILLS Shorthorns. Herd headed by Silver King, full brother of Lavender Sultan Purdue University's great sire. For sale females of all ages, a few young bulls. Geo. D. Doster, Doster, Mich.

For Sale Several choice young Shorthorn cows and heifers. E. S. Batchelor, R. 6, Howell, Mich.

Shorthorns Good Scotch bred bulls, cows and heifers priced right. W. B. McQUILLAN, R. 7, Howell, Mich.

SCOTCH Shorthorns for sale. Special—A roan 17 mo. old, bull suitable for herd header. Lawrence F. Otto, Charlotte, Mich.

Milking Shorthorns of best Bates breeding. Nothing for sale at present. E. H. KURTZ, Mason, Mich.

Bulls all ages, 6 yr. cow due in Jan. \$300; 2-2 yr. old heifers \$250.00 each. Central Michigan Shorthorn Assn., Oscar Skinner, Sec., Gowen, Mich.

Small Herd of Registered Shorthorns for sale. R. 5, Flint, Mich.

The Kent Co. Shorthorn Assn. have males and females for sale. L. H. LEONARD, Sec., Caledonia, Mich.

FOR SALE One car load registered Shorthorn Cattle. H. W. HUBBARD & SON, Ovid, Mich.

FOR SALE Six Registered Durham Bulls. Reds and Roan eight mths. to one year old all by Richland Pride 554679. HENRY C. LYNCH, Mayville, Mich.

HOGS

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

Berkshires Bred and open gilts serviceable boars; can furnish pairs or trios. RUSSELL BROS., R. 3, Merrill, Mich.

Registered Berkshire boars, one yearling, two spring boars priced reasonable and guaranteed to be O.K. B. B. REAVEY, Akron, 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

CAREY U. EDMUNDS, Hastings, Mich.

DUROC BOARS

of size, quality and breeding. All are sired by State Fair Winners. Come see herd. NEWTON BARNHART, St. Johns, Mich.

DUROC JERSEYS Boars sired by a son of King the Col. E. D. HEYDENBERR, Wayland, Mich.

Registered Duroc Boars

We have a choice lot of spring boars, sired by Michigan Cherry Col. No. 118479. Ira Jackson selected this boar to head our herd. Our prices are within every farmer's reach. The Jennings Farms, Bailey, Mich., R.F.D. No. 1

Duroc Jerseys Our herd won 15 firsts, 9 seconds, 3 thirds, 3 fourths, 3 fifths at leading Michigan fairs including State Fairs. We have some choice boars ready for service, reasonable prices. Some bred sows later on. RUSH BROS., OAKWOOD FARM, Romeo, Mich.

MICHIGANA FARM has a few good farmers Boars at farmer's prices. Also boars good enough to head good pure bred Duroc herds. Get our prices on bred gilts and sows. They will interest you whether you are planning to get a bred sow or not. O. F. FOSTER, Mgr., Pavillion, Mich.

Duroc Jerseys Two good yearling boars that are good enough to head the best herds in Michigan, also spring boars large enough for service. Sired by the Grand and Junior Champion boars. F. J. DRODT, R. 1, Monroe, Mich.

Duroc Boars. Spring boars, fashionable breeding, right prices. BOARDMAN FARMS, Jackson, Mich.

Duroc bred sows and gilts sired by Orion Cherry King Col. 2nd, bred to All Col. of Saginaw 2nd. First class lot, reasonable. W. O. Taylor, Milan, Mich.

Duroc Boar, Senior yearling registered. Excellent breeding, individual and breeder. Weight over 400. A Bargain at \$80. F. R. BAYLIS, Dexter, Mich.

For Sale, 3 fine Duroc Boars large enough for light service, Defender and Orion Breeding. Price \$30.00. F. A. LAMB & SON, Cassopolis, 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 any month of the year. Write for my plan—'More Money from Hogs'.

G. E. BENJAMIN, R. F. D. 12, Fortland, Michigan

Chester Whites spring and fall stock for sale either sex. At Saginaw fair we won highest honors against strong competition. F. W. ALEXANDER, Vassar, Mich.

O. I. C. and Chester White Swine

Strictly Big Type with quality. Spring pigs of March and April farrow. A choice lot of boars. Will only spare a few more gilts at present. Will ship O. O. D. and record them free. Newman's Stock Farm, Marlette, Mich. R. No. 1.

Gilts bred for March and April farrow, guaranteed safe with pigs. Fall pigs and a few service boars. Herd immuned by D. T. F. C. Burgess, R. 3, Mason, Mich.

O. I. C.'s. Last spring boars all sold. Have an extra good lot of last spring gilts, good fall pigs not akin, Good stock, registered free, 1/4 mile west of Depot. OTTO B. SCHULZE, Nashville, Mich.

O. I. C.'s. Am offering a few September pigs that combine size and quality. C. J. THOMPSON, Rockford, Mich.

O. I. C.'s. Big type serviceable boars, summer farrowed boars. Gilts, long bodied, short nosed, open or bred. G. P. ANDREWS, Danville, Mich.

Veterinary.

Cough—Diarrhoea.—Have mare that has been coughing for the past three weeks, besides her appetite has failed and the food she eats passes through her whole. Our local Vet. prescribed for her, but his medicine failed to check her scouring. H. T. B., Port Huron, Mich.—A case of this kind should not be treated by mail, for the treatment should be changed almost daily, especially if one remedy fails, another should be tried. Give her one pint of raw linseed oil (not boiled), one dose only. Also give ½ oz. tincture ginger and ½ oz. fluid extract of cinchona at a dose three times a day.

Scratches—Blood Purifier.—I would like to know what I can do for scratches on a horse. Also wish to know a good blood purifier for horses. G. E., McBain, Mich.—Apply one part oxide of zinc and four parts petrolatum daily but don't forget to keep heels clean and dry. A very good alternative medicine for horses is potassium iodide and it should be given in 1 dr. doses two or three times a day.

Spasm of Larynx.—No person round here seems to know what ails my pigs. Immediately after the pigs go to the trough to either eat or drink, they suddenly back up, stagger, fall over and remain down for a few minutes. We feed them ground oats, barley, corn, also cooked beans. Several of them are not thriving. C. M., Saginaw, W. S., Mich.—Doubtless your pigs either suffer from spasm of larynx, or choke as the result of filling the mouth and throat too full of cold food or swill. If you will spread out their meal, heat it with hot water, making it quite moist, you will have much less trouble with your pigs. Mix equal parts of ginger, gentian, bicarbonate of soda and powdered wood charcoal together, and give each pig half a teaspoonful at a dose in meal two or three times a day. Rubbing throat with camphorated oil once a day is good practice.

Spasm of Larynx.—We have twenty pigs ten weeks old and when they get to the trough to eat, they suddenly seem to take a fit. They fall over and squeal and struggle for a minute or two and seem to get entirely over it. What can be done for them? G. G., Marine City, Mich.—If you will heat and moisten their feed thoroughly, also spread it out thin to prevent them from filling their mouth and throat too full they should not choke and have throat trouble. I would suggest keeping some food within their reach to avoid their getting too hungry.

Bowel Hemorrhage.—Two head of my young cattle are troubled with a bloody discharge from their bowels, but they have a good appetite for food. J. K., Wayne Co.—Change their feed, take cold chill off water and give 30 grains of salol at a dose three or four times a day, the dose can be increased. It is considered good practice to give tannic acid, also small doses of alum, but of course, alum should be administered cautiously, as it might produce too much of astringent effect on the bowels.

Sore Shoulder.—What kind of a collar should I use on my three and a half year old draft colt, and how shall I fit it? His shoulders are unusually prominent and unlike other horses. This colt has not done much work but almost every time he is worked bunches come on his shoulders. Can this trouble be overcome? L. E. B., Conway, Mich.—The collar maker is the proper man to consult and abide by his selection, but have him make a collar, if he has none in stock that fits.

Foreign Body in Mouth.—My mare seems to chew her hay, but is unable to swallow it and, of course, drops most of it out of her mouth. The local Vet. prescribed 15-drop doses of tincture of nux vomica three times a day and advised us to use strong liniment on throat, but it failed to help her. W. W. E., Eastlake, Mich.—In a case of this kind you will usually find a splinter of wood, a piece of wire or corn-cob fastened well back in the mouth, causing the animal to spit out a whole lot of the partially masticated food. I advise you to be thorough in your examination for the trouble must be in the mouth. It will do no harm to write again.

Rheumatism.—I have bunch of pigs six months old that I am feeding all the corn they will eat. One of them became constipated and I gave it oil, now it is stiff and lame in one hind leg. D. M., Decatur, Mich.—Give him five grains of sodium salicylate at a dose three times a day. Apply equal parts turpentine and raw linseed oil to stiff joints once a day.



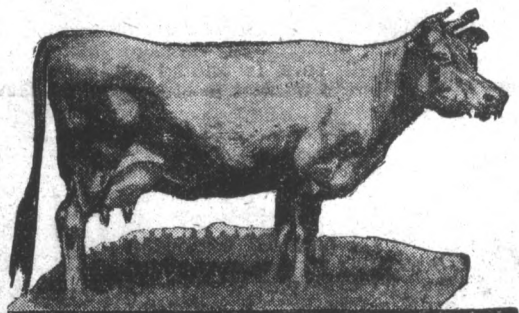
Her Health Was Not Left to Chance

The cows that make the big milk records are well fed and well bred, to be sure. But, above all, they are in the pink of condition. The constant strain of heavy milk production will wear down the vitality of the digestive and genital organs of the best of cows, and the result is such ailments as Abortion, Retained Afterbirth, Barenness, Scouring, Bunches and Milk Fever. Any of these diseases can be successfully treated and eliminated with KOW-KURE, the great cow medicine. The medicinal properties of this famous remedy act directly on the organs of production and reproduction, putting the cow's system back to normal, healthy action. A decided increase in the milk yield is sure to follow. Feed dealers and druggists sell KOW-KURE; 60c and \$1.20 packages.

Consider cow-health first, and your dairy will be a leader, and a money-maker. Our free treatise,

"THE HOME COW DOCTOR," will give you valuable pointers on how to treat and prevent cow diseases. Ask for your copy.

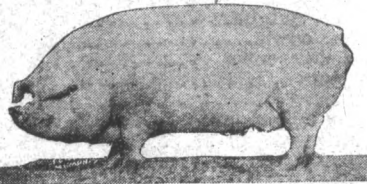
Dairy Association Co.,
Lyndonville, Vermont



Health Pays!

This perfect three-year-old Jersey has a yearly milk record of 17,793 lbs. Nothing short of 100% health would make such a record possible.

THE FAMOUS O.I.C. SWINE



We have the undefeated Herd of the World. Winning premier breeder and exhibitor at every fair shown in 1919-1918-1917, including the following state fairs—Ohio, Michigan, Indiana, Illinois, Missouri, Kentucky, Tennessee, Oklahoma, New York, Alabama, Tri-state fair Memphis, and the National O.I.C. twice. Stock of all ages for sale. Registered free in the O.I.C. association. Order now. We will ship any of our stock on approval allow you to keep three days before you have to pay for it. You will be your own judge on your own farm.

CRANDELL'S PRIZE HOGS, Cass City, Mich.

O. I. C. BOARS FOR SALE

One of the Best Herds in Michigan
Big type, growthy boars of all ages. I ship C. O. D., pay express and register in buyer's name. If you want a real choice boar, guaranteed right in every way, write me.
J. CARL JEWETT, R. 5, Mason, Michigan.

O. I. C.'s Have some choice spring boars and gilts; also this year's fall pigs.
WEBBER BROS., R. 2, Phone 408, Royal Oak, Mich.

O. I. C.'s Service boars, fall pigs no akin also
Buff R. oks. at \$3.00 each.
CLOVER LEAF STOCK FARM, Monroe, Mich.

O. I. C.'s one 18 mo. herd boar, a few bred gilts and a Choice lot of fall pigs.
JOHN C. WILK, Alma, Mich.

L. T. P. C. 1 spring boar, (by Long Jones) the best pig you ever saw; price \$100.00; send check with first letter or the other fellow will beat you. If you don't like description will return check. A few good spring boars left at farmer's prices. Gilts will be bred to a grandson of Giant Buster and a Grand Son of Dishers Giant, no better pair of young boars in the state, and Wiley's King Bob.
H. O. SWARTZ, Schoolcraft, Mich.

Boars also sows and pigs. Real Big Type Poland B Chinas. Bred big for 25 years. Sired by Mich. Buster by Giant Buster, litter H out of Mouw's Miss Queen 2nd, some breeding, also by Butler's Big Joe by Rust's Big Joe, out of a Wonder Queen, nuf said. Write us your wants, we will treat you right, our prices are low.
J. C. BUTLER, Portland, Mich.

LARGE Type P. C. the largest in Mich. Spring boars now ready to ship. Boars for the breeders and farmers with quality. Free delivery from Parma furnished visitors. Look up my exhibit at the Great Jackson Co. Fair, Sept. 8th. to 12th. expenses paid if not as advertised. W. E. Livingston, Parma, Mich.

M. R. P. C. Breeder if you want to get in the King row. Buy a Gilt bred to Big Bob Mastodon, more Grand Champion Blood in his veins than any other Boar in Michigan. C. E. Garraut, Eaton Rapids, Mich.

B. T. P. C. spring Boars all sold. One Oct. 21st perfect as any pig in Michigan. Price \$125. Gilt ready Jan. 1. Bred to a good son of \$10,190 Harrison's Big Rob. Every pig recorded free.
JOHN D. WILEY, Schoolcraft, Mich.

B. T. P. C.'s for sale, our herd boar. Mouw's Wonder 100215 bred by Mouw, extra good one. Price \$100. Spring boars and gilts from prize winning sires and dams. W. Brewbaker & Sons, R. 5, Elsie, Mich.

P. C. Boars Long bodied, heavy boned, with best of breeding. Satisfaction guaranteed.
R. W. MILLS, Saline, Mich.

Big Type P. C. Boars, best breeding, best herds out of 1100 lbs. sire and mammoth sows, big boned fellows. E. J. Mathewson, Burr Oak, Mich.
A. A. WOOD & SON, Saline, Mich.

Big Type P. C. Choice spring boars from Iowa's great; best herds out of 1100 lbs. sire and mammoth sows, big boned fellows. E. J. Mathewson, Burr Oak, Mich.

Big Type Poland Chinas. Spring boars by BIG BOB. Out of sows by Grand Master and Hillcrest Wonder. Also Fall Pigs.
HILLCREST FARM, Kalamazoo, Mich.

TWO HERD BOARS for sale. Ask for description of a real boar, live wires. Also have a few fall pigs, pair not akin.
C. A. BOONE, Blanchard, Mich.

BIG Type Poland Chinas. Sired by Smooth Mastodon litter mate to the Ill. Grand Champion. The big boned, deep, long bodied kind at farmer's prices. Wah-be-me-me Farms, White Pigeon, Michigan

Large type P. C. Spring boars and gilts now ready to ship. Also one fall yearling boar and fall pigs.
CLYDE FISHER, R. 3, St. Louis, Mich.

Big Type P. C. sows bred to Ls Big Bob & THIRTY Ls Giant, fall pigs, none better, call or write.
E. R. LEONARD, St. Louis, Mich.

"We Like The Good Ones and believe you do also." A few choice gilts bred to my new boar, Mountain Jack—immune and registered, and due to farrow in April. Call or write.
WESLEY HILE, R. 6, Ionia, Mich.

Big Type P. C. Gilts bred to Big Orange Model and C. H.'s Defender. None better in State. Priced to sell.
W. J. Hagelshaw, Augusta, Mich.

Additional Stock Ads on Page 71

LATEST MARKET REPORTS

FIRST EDITION.

The markets in this edition were revised and corrected on Tuesday afternoon, January 6.

WHEAT.

Market is firm. Minneapolis quotes another advance. Receipts in the Detroit market on Monday were five cars, against four a year ago. Shipments 2,000 bushels. Stocks are 69,000 bushels, against 70,000 a year ago. Demand here is not active. Present values are as follows:

No. 1 red	\$2.49
No. 1 mixed	2.47
No. 1 white	2.47
No. 2 red	2.44
No. 3 red	2.41

CORN.

Weather conditions still interfere with the free marketing of corn, but there is a general feeling that prices will come down. Immediate future prices depend on receipts and there is considerable uncertainty whether or not they will be sufficient to force prices much lower. In some respects the outlook is favorable for a decline in prices due to a disposition on the part of farmers to sell, and the promise of more cars to handle the grain, but cold weather for the next few days will hinder farmers' deliveries, and also delay movement of cars, as the roads are short of motive power. In Chicago Cash No. 2 yellow corn is quoted at \$1.50. In Detroit the market is strong and prices are:

Cash No. 3	\$1.48
No. 3 yellow	1.50
No. 4 yellow	1.45
No. 5 yellow	1.41

OATS.

The oat market suffered somewhat of a jolt last week due to reports of active selling by exporters who claimed they could do better in Argentine where shippers were in a position to make big sales and could find abundant space to make prompt shipments. Later reports, however, claim a million bushels have been sold for export and all offerings were promptly absorbed. The market made a general gain. Quotations at Detroit are as follows:

No. 2 white	88½
No. 3 white	87½
No. 4 white	86½

RYE.

This cereal is showing considerable strength on account of a lively foreign demand. The market in Detroit is firm at \$1.80 per bushel for Cash No. 2 rye.

BEANS.

The bean market is reported quiet and price changes are unimportant. Pea and medium beans are not in active demand. Red kidneys are much firmer than they have been for several weeks. In New York choice 1919 pea beans are quoted at \$7.75@7.85; medium, 1919, choice \$7.75, and red kidneys choice 1919 \$14.50@14.75 per cwt. The Detroit market is steady, but the trading is slow. Choice pea beans are selling at \$7.25 per cwt.

BARLEY.

The barley market is strengthening in sympathy with other grains. At Detroit Cash No. 3 barley is quoted at \$3@3.20 per cwt.

SEEDS.

The trend of the seed market is upward and the demand is strong. Cloverseed is making slight advances. At Toledo prices are quoted at about 25c higher than on the Detroit market where prime red cloverseed, Cash and March, is quoted at \$31.25; alsike at \$32.50; timothy \$6 per bushel.

FEEDS.

Feeds, on the Detroit market, are quoted easy at the following prices: Bran \$48@49; standard middlings \$50@51; fine middlings \$60@61; cracked corn \$64; coarse corn meal \$60@62; corn and oat chop \$53@55 per ton in 100-pound sacks.

HAY.

The supply of hay shows no marked increase and the market continues active and prices firm. At Detroit the present values are \$30.50@31 for No. 1 timothy; \$29.50@30 for standard timothy; \$29.50@30 for light mixed; \$28.50@29 for No. 2 timothy; \$25@27

for No. 3 timothy; \$28 for No. 1 mixed; \$28.50@29 for No. 1 clover mixed; \$13.50@14 for rye straw; \$13.50@14 for oat straw in carload lots.

Pittsburgh, Pa.—Receipts of hay have shown a slight increase which gives the market an easier tone, but prices are well sustained and all the grades selling readily at quotations which are as follows: No. 1 timothy \$32.50@33; standard timothy \$31.50@32; light clover mixed \$31.50@32; No. 1 clover mixed \$34@34.50; No. 1 clover \$35.50@36; oat straw \$15@15.50; rye straw \$14@14.50 per ton in carload lots.

EGGS.

Fresh eggs are more plentiful in the Detroit markets and prices are lower. Buyers are not active and an easy tone is the result. The bulk of storage eggs has been taken and prices have advanced since last week. Fresh eggs are quoted at 68c per dozen and storage eggs according to quality, are selling at 47@51c per dozen.

BUTTER.

The butter market is slow, with the prices a little higher. Consumers are holding off and receipts are only moderate. Fresh creamery butter in one-pound prints is quoted on the Detroit market at 62@62½c; fresh creamery in tubs 61@61½c.

CHEESE.

The market is firm and good offerings find a ready demand at the following values: Michigan flats, June make 33½c; Michigan flats, new make 32c; New York flats, June make 34c; domestic block Swiss 36@40c.

POTATOES.

Supplies light. Demand and movement rather slow on account of cold weather, but the market is higher and

stronger. Michigan U. S. grade No. 1 stock in 150-pound sacks is quoted at \$5.75@6 for round whites. At Cleveland the market is stronger and demand and movement good. New York round whites in 150-pound sacks are quoted at \$6 per sack for U. S. grade No. 1. At Chicago the demand is active and strong with prices higher. Michigan round whites U. S. grade No. 1 are selling at around \$3.75 per 100-pound sack.

WOOL.

For the past two weeks the Boston wool market has been dull as to sales, but renewed activity is expected right away and the market has held firm. The low ebb of trading has been seen, in the opinion of leading authorities upon conditions. The business previous to the Christmas period was heavy enough to allow for a respite over New Year's and the situation at the end of the year, 1919, has been considered as satisfactory despite the lack of activity. Beginning 1920, the trade finds itself with few burdensome accumulations of wool and prices high, with the outlook favorable.

While little has been done the past week, that little has included some selling of medium wool. Moderate transfers of this class of wool have been made both in territory and fleece sorts. A lot of 200,000 pounds three-eighths blood territory has been distributed at 60 to 62 cents in the grease, or an estimated scoured cost of \$1.35 to \$1.37. Approximately 40,000 pounds low quarter-blood fleece have been absorbed at 50 cents. Some Ohio three-eighths blood combing has been sold at 71 cents and quarter-blood has been taken to some extent at 67 to 68 cents.

All classes of fine wool is in an exceedingly strong position today. The

ideas of some holders are very bullish concerning both fleece and territory in fine sorts, as indicated by a quotation of 80 cents for choice unwashed Ohio clothing wool. This grade is reported to have been sold at 76 cents. Some choice clothing territory has been sold at 67 cents, the scoured cost being estimated by some factors at well up to \$2, though the buyer figures it at \$1.90@1.95. The position of wool suitable for the French combs is decidedly strong.

POULTRY.

Poultry is in active demand and the receipts are not heavy. Chickens are not in sufficient supply to meet the needs of the trade. Live Poultry.—Spring chickens, large 33@34c; Leghorns 28@29c; hens 32@34c; small hens 26@27c; roosters 20@22c; young geese 31@33c; ducks 38@40c; turkeys 52@54c per pound.

GRAND RAPIDS.

The year 1919 closed with prices for farm products firm and in most instances, higher than the year previous. Farmers now want \$2 a bushel for potatoes. Loose hay is dull at \$27 a ton, teamsters preferring baled now at \$30 retail. More poultry was raised in western Michigan than for many years and growers were paid 25 per cent more than ever before, especially for chickens. The price now is 24 cents a pound, live weight. Farm crops in the main were excellent the past year, especially wheat, some farmers getting a yield of 43 bushels per acre. There was less acreage of beans but the yield was satisfactory and quality better than the year previous. The price now is \$6.50 per cwt to the growers. Buckwheat was the lightest in many seasons and the price is higher than a year ago, being \$3 per cwt. Clover seed was a failure in this section of the state, the retail price now being \$32.50@33.50 per bushel. Price of beef cattle on the hoof showed but little change from the year previous, but dressed hogs were higher. Wholesale dealers in fruits and vegetables report 1919 the biggest year in business, notwithstanding prices in most lines were higher than the year previous, especially Northern Spy apples at \$12 a barrel, Baldwins \$10, cabbage \$5 per cwt, and onions \$5.50 per cwt.

DOWER.

If a man dies in Michigan leaving no children can his people take all of his land away from the widow?

The law of his land is governed by the law of the place where the land is. If it is Michigan land the widow takes one-third in fee as heir if he leaves no will.

J. R. R.

Live Stock Market Service

Reports for Tuesday, January 6th

BUFFALO.

This market sold hogs at \$15.50; lambs at \$19.50 and calves at \$22 to day. The cattle trade is dull.

DETROIT

Cattle.

Market strong.
Best heavy steers \$12.00@12.50
Best handy wt bu steers.. 10.50@11.00
Mixed steers and heifers.. 9.50@10.00
Handy light butchers 8.50@ 9.00
Light butchers 7.50@ 8.50
Best cows 9.00@10.00
Butcher cows 7.00@ 8.50
Cutters 6.00
Canners 5.50@ 5.75
Best heavy bulls 9.00@10.00
Bologna bulls 8.00@ 9.00
Stock bulls 7.00@ 7.50
Milkers and springers... \$ 60@ 125

Veal Calves.

Good grades steady; others are dull.
Best \$21.00@23.00
Others 9.00@17.00

Sheep and Lambs.

Best lambs \$ 18.50
Fair lambs 16.00@17.75
Light to common 12.00@15.00
Fair to good sheep 9.50@10.00
Culls 4.00@ 6.00

Hogs.

Market 10c lower.
All grades \$15.15

CHICAGO.

Hogs.

Estimated receipts today are 80,000; holdover 9,467. Market is slow and about 35@40c lower. Bulk of sales at \$14.65@14.80; tops \$14.90; heavy 250 lbs. up, medium, good and choice at \$14.55@14.80; medium 200 to 250 lbs, medium, good and choice at \$14.65@14.90; light 150 to 200 lbs, common, medium, good and choice at \$14.55@14.80; light lights 130 to 150 lbs, common, medium, good and choice \$14.15@14.65; heavy packing sows 250 lbs up, smooth \$14@14.50; packing sows 200 lbs up rough \$13.40@14; pigs 130 lbs. down, medium, good and choice \$13.50@14.50.

Cattle.

Estimated receipts today 20,000. The market is steady to 25c lower; calves

25c higher. Beef steers, medium and heavy weight 1100 lbs up, choice and prime \$18.75@20; do medium and good \$11@18.75; do common \$8.75@11; light weight 1100 lbs down, good and choice \$13.50@19.25; do common and medium \$8@13.50; butcher cattle, heifers, common, medium, good and choice \$6.50@14.75; cows, common, medium, good and choice \$6.40@13.50; bulls, bologna and beef \$7.50@12; canners and cutters, cows and heifers at \$5.25@6.40; do canner steers at \$6.25@8; veal calves, light and handyweight medium, good and choice at \$16.25@17.50; feeder steers, common, medium, good and choice \$7.50@12.50; stocker steers, common, medium, good and choice \$6.50@10.50; stocker cows and heifers, common, medium, good and choice \$6.50@8.25; stocker calves, common, medium, good and choice \$7.50@10.75.

Sheep and Lambs.

Estimated receipts today are 17,000. Lambs are 25c higher. Lambs 84 lbs. down, medium, good, choice and prime \$16.50@19; do culls and common \$13@16; spring lambs, medium, good, choice and prime \$12.25@16.75; ewes, medium, good and choice \$8.50@11; ewes cull and common \$5@8.25; yearling wethers, medium, good and choice \$14.50@16.25.

BUFFALO.

Cattle.

January 5, 1920.
Receipts 3,000; steady to 25c higher; prime steers \$16.50@17; shipping strs \$15.50@16; butchers \$10@15.50; yearlings \$14@15.50; heifers at \$6@11.50; cows \$4.50@10.75; bulls \$6.50@10.50; stockers and feeders \$6@10.25; fresh cows and springers \$55@175.

Calves.

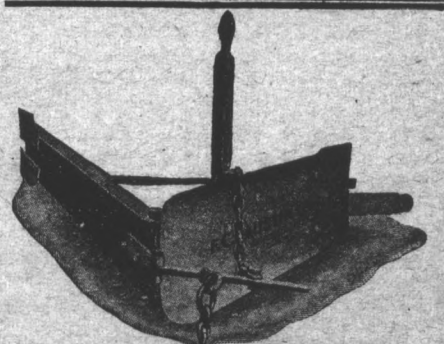
Receipts 1,200; 50c higher \$6@23.

Hogs.

Receipts 11,200; are 25@50c higher; heavy, mixed and yorkers \$15.50@15.75; light, do and pigs \$15.75@16; roughs \$13@13.50; stags \$10@12.

Sheep and Lambs.

Receipts 1,000; strong 25@50c higher; lambs \$11@19.50; yearlings \$10@16; wethers \$11.50@12.50; ewes \$4@10.50; mixed sheep \$11@11.50.



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FOREIGN MEAT NEEDS.

THE present situation as regards the European requirements for meats from outside sources is unparalleled, there being a serious deficiency as an outcome of the great war which devastated several countries. A few days ago J. H. McCurdy, member of parliament and parliamentary secretary to the British ministry of food, remarked that a scramble for meat imports appears inevitable, if European countries have any available money to spend this year. He said that it is a situation full of menace, and more menacing by the fact that a great meat trust stands ready to exploit the position to its own advantage, a group of North American packers already controlling a large part of the surplus meats of the world. Mr. McCurdy thereupon makes a stirring appeal to the British farmers to produce more meats and foodstuffs and asks for more protection for British food producers. He says that Britain will need this year more than one million tons of meats and the remainder of Europe three million tons, while the exportable surplus in Australia, New Zealand, South Africa and South American countries only amounts to 1,210,000 tons. British stocks of meat-producing animals are greatly below pre-war times, and the total live stock of European countries has been lowered by at least one-third by the war. It is certain that there is going to be a vast field for United States and Canadian farmer-stockmen to feed Europe, and the Edge bill, now a law of the United States, promises to furnish material assistance in developing the trade of this country with Europe and South American countries. European people greatly standing in need of credit. Looking ahead, it looks like a great expansion of our export trade during 1920 and for years ahead. Our foreign trade for the year now closed reached extremely large proportions, with hog products exported especially freely, these showing substantial gains over the preceding year.—F.

NEW YORK PRODUCE MARKET.

Butter.—An increase in receipts due to delay in transit last week of about 10,000 tubs of butter tended to cause nervousness in the market this week. In addition about 1,000 casks, or approximately 115,000 pounds, of Danish butter arrived which, while small, causes the buyer to feel that more will soon be coming and that there is likely to be a material decrease in butter prices. Conservative dealers, however, are inclined to believe that, with conditions as they are in Europe, butter imports will not be sufficient to materially affect our market. Production seems to be on the increase. Exporters are doing very little business at present and butter prices declined three cents during the week, one cent on Wednesday and two cents on Friday. Quotations are: Extras 68c; higher scoring than extras 68½c; firsts 60½c to 67c; seconds 56c to 59½c.

Cheese.—Trading in cheese has been at a standstill. There is no export demand and local buyers are cautious. Production is low in the east but normal in the west. Quotations are: Current make, common to good 29c to 30c; other grades not in sufficient supply to warrant quotations. Held cheese, under-grade 26c to 30½c; average run 31c to 32c; specials 32½c to 33c.

Eggs.—The egg market has been sensitive and irregular but price changes were confined to a narrow range. Receipts have continued light but the quality is running higher. Storage stocks are cleaning up slowly. Consumption is moderate. Established quotations are: Seconds and poorer 60c to 70c; firsts 71c to 73c; extra firsts 74c to 75c; extras 76c.

Poultry.—Receipts of poultry have been heavy and consumption has not kept pace, resulting in a weak market with the price tendency downward. Average quotations are: Spring chickens 28c to 30c; fowls heavy 31c to 34c; fowls, light to medium 28c to 30c; old roosters 21c; ducks 33c to 40c; geese 30c to 36c.—L.

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