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Raising Aristocratic Lambs By W. MILTON KELLY

ACCORDING to Leslie Rice, who raises aristocratic lambs in Erie County, New York, lamb raising and running a first-class hotel are about one and the same thing, and Mr. Rice knows, because he has been catering to the aristocratic lamb for eight years, and no \$70 a day guest at any summer hotel has ever put anything over a Rice lamb when it comes to food and lodging.

Traveling through Europe you will hear vastly more about prime lambs than you will in America. When the Dorset sheep was first imported from England American sheep men began to wonder if the breed would adapt themselves to the conditions in their new homes. Some made fun of their large horns; others said that their habit of dropping lambs in the fall would be of no special value to flock owners in this country. Over in England they can tell you all about this grand breed of sheep—that they are the only one that will lamb in what is practically the off-season. Dorsets will habitually lamb in October, November and December. These three months enable the breeders of Dorsets to place their lambs on the market when they command not only the highest prices, but are absolutely so scarce as to bring the breeder's own price. In addition, they are wonderfully prolific, and possess such a superabundance of milk that the Dorset ewe can raise two lambs, without difficulty. Seventy per cent of Mr. Rice's ewes drop twins.

Dorsets might be called a "dominating" breed, i. e., a breed that has been bred pure for so many years that, when crossed with other breeds, the resulting progeny take after the Dorset rather than the other side, and in almost every case we see horns, white faces, and good milking qualities in the grades; and if the ewe mated with a Dorset ram is a grade, the more surely will one obtain the desired qualities.

A number of years ago a few far-seeing breeders began to see the possibilities of raising lambs to supply the demands of the aristocratic trade during the winter. So there has arisen a peculiar distinction between the two branches of the sheep business. You can keep a few sheep just as a "hobby." But you can't raise aristocratic lambs as a "hobby." Aristocratic lambs like summer boarders, are a cold, fussy proposition. If you think raising a few sheep and aristocratic lambs is one and the same thing—there is one piece of advice to give you—don't.

The thing that started Mr. Rice on his upward course as a breeder of aristocratic lambs is a problem that must be faced by every young man who inherits a run-down farm and who is willing to work hard and accumulate a little ready cash instead of cropping his land year after year selling all the hay and grain raised upon it and expecting to have a farm left. But let Mr. Rice put the situation in his own words:

"When a boy I was naturally interested in farming because my father left me a farm and very little cash. As far as my knowledge of farming was concerned he might as well have willed me a cork leg. I had a farm on my hands that had been cropped for many years until the land was in bad condition. It was plain to me that if I kept on in the same rut I would own just the line fences before long, for the fields were diminishing in productivity each season. Then I woke up—at least partially—and said that it was time to put some fertility back on the farm.

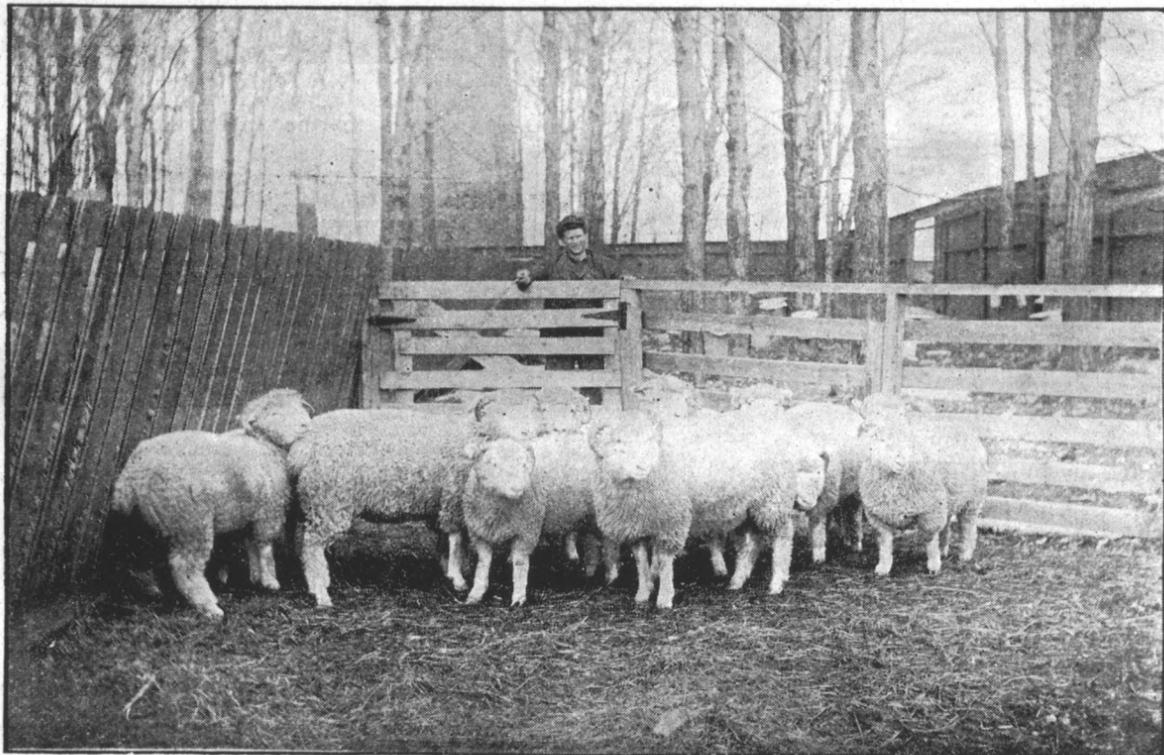
epicures for toothsome meat to take the place of choice game which is becoming scarce in every large city market. As I saw it, there was a general famine for these delicacies to tickle the palates of the very rich. And it would be years before the demand could be supplied, besides there was the rapid and steady increase in population to be considered.

I find it is no harder to raise October lambs than March lambs. The ewes do not need any artificial heat; in fact, any comfortable barn or shed that is sufficiently protected from the weather is shelter enough. My barn was built for dairy cattle, but by changing the partitions it makes a very good sheep barn and it has cost me very little to make the improvements. I have raised nearly all of my breeding stock and sold a number of pure-bred Dorset rams each year. For the past two years the business has made me a little money besides the gradual increase in the size of my breeding flocks. From now on my 120 ewes and my pure-bred

clean barn with lots of ventilation are what is needed to put the lambs in fine condition for the January market. Last January some of my lambs born during October weighed 70 pounds. Any farmer can easily learn how to kill and dress the lambs, as they must be sent to market dressed, and any good commission dealer will gladly handle your business for you at the other end.

"For the past two years I have begun mating my ewes with the ram early in May. They seem to breed better before warm weather comes. We leave the ram with the ewes at night and keep them in a pasture by themselves in the daytime. I prefer young rams and feed them very liberally during the breeding season. The ewes and rams should be in good, vigorous condition at breeding time. I keep five or six young rams at all times and allow two of them to run with the flock at night during the mating period. In my pure-bred Dorset flock I use older rams almost exclusively.

"As to the feeding question, I grow corn, oats, clover and timothy on about 60 acres, about 50 acres is used for pasture and 25 acres planted with soiling crops such as rye, rape, oats and peas and roots. Rye and oats furnish good fall grazing and the rye is pastured in the spring. Rape is another crop that I am experimenting with. It produces a lot of choice sheep feed and the sheep seem very fond of it. I find rye the old standby on thin land. For summer pasture natural grasses keep the ewes in good order. I am trying out alfalfa on a few fields and believe it is destined to play an important part in the future of the sheep business in America. By changing pastures frequently and allow-



A Bunch of Dorset Lambs—the Breed Best Adapted to Off-Season Production.

Dairying didn't appeal to me, so I bought twenty grade ewes, twelve pure-bred Dorset ewes and a very good Dorset ram. By the time I had raised two crops of lambs I had learned a few things. The little flock made me study the sheep and market closely—not only as to the demands of the ordinary trade but to the opportunities in catering to the very best trade. The further I dug into the problem and the more I studied my animals the more convinced I became that we were in for an indefinite era of ascending prices and that this class of lambs must be produced by the man who understands his sheep and is willing to cater to their every want. I could not get away from the fact that there was almost an insatiable demand among

flock should bring me a good profit after deducting market values for the feeds grown on the farm, and taking into no account the large amount of the very best fertilizer which the sheep produce.

"The secret of success in caring for and feeding these lambs is the utmost attention to every detail that will add to the comfort of the ewes and their lambs and inducing them to consume all the food they can economically digest and assimilate. At three weeks old the lambs begin to eat and there is nothing better for them than corn meal and bran. At 70 days old some of the best feeders will be fit for the market and at from 90 to 100 days' old even the dainty feeders will be ready. Plenty of clean feed, pure water and a

ing the flock plenty of range I have had no trouble from worms and parasites; however, I am figuring on buying an adjoining pasture so that I can change pastures more frequently as my flock grows.

"During the fall months I feed my ewes a few pumpkins, mangel-wurzels and carrots. Last winter I fed silage and find it a good substitute for roots and it can be raised and stored much cheaper.

"Too much attention cannot be devoted to furnishing the right variety of food for winter lambs. This also applies to the rams and ewes before the lambs arrive and to the ewes that are nursing the lambs. Care must be taken to vary the food and properly

(Continued on page 550).

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DETROIT, APRIL 22, 1916

CURRENT COMMENT.

Milk Inspection and Milk Prices.
A continued discussion of the milk inspection problem by the editor of our Practical Science Department will be found in another column of this issue. Speaking from the standpoint of the scientist, whose role has been the application of every precaution to conserve public health, he accepts the intelligent inspection of dairy farms as desirable from an educational as well as a sanitary point of view, but emphasizes the still greater desirability of a laboratory examination of the product of the dairy farm to determine its relative desirability as an article of human food. Those who have read these articles carefully will note this constant and consistent advocacy of a proper examination of the milk itself as a qualification for admission to city markets, instead of admission on a scoring of the premises where the milk is produced.

Further discussion will touch upon the desirability of the standardization of requirements for the production of market milk and the best way of attaining same. It has been suggested by prominent dairymen who have taken an interest in this discussion that a conference of interested parties be held at an early date looking toward the calling of a general meeting of dairymen for the discussion of this problem. It is too early to state whether such plans will or will not be adopted. Properly this question should be handled through the existing organization of dairymen contributing to the city milk supply so far as it relates specifically to Detroit or any other market center. Should it seem desirable after a full discussion of the proposition to start a state-wide movement for the betterment of inspection conditions, steps will be taken to that end.

Another question which should be considered in the same connection is the schedule of prices which dairymen are to receive for market milk. The dairymen contributing to the Chicago milk supply have recently won an important victory over the distributors in that district whereby a material advance in the price of market milk has been assured for the coming six months. The average price demanded and secured by the association of dairymen is \$1.55 per hundred for three and a half per cent milk for this period of time, as compared with an average of \$1.33-1.6 offered by the larger distributors for this period. The price for April milk is \$1.65 per hundred as compared with \$1.25 to \$1.30 at the outside loading stations contributing to the Detroit market, which is not much, if any, in excess of the value of the cream which this milk would produce at current values for butter-fat,

after leaving the farmer the skim-milk, which is worth from 25 to 30 per cent as much for feed as the producer is getting for the whole milk. Of course, the producers who have acceded to the price made through a committee of their association are morally bound to fulfill their contracts, but before another contract is entered into, steps should be taken to insure a compensatory price for the product. The most carefully compiled statistics show that it is impossible to produce milk under winter conditions for \$1.25 per cwt, to say nothing of leaving a profit over the cost of production when the product is sold for that price. As sentiment may crystallize from this discussion, our readers will be kept in touch with new developments.

The Wool Market.
In another column of this issue under the above heading appears a comment by the State Market Director on the meeting of wool buyers held in Detroit last week, and his conclusions toward the probable range of the wool market at its opening. The reasons given for the maintaining of a strong market for the product are so sound that Michigan wool growers would do well to hold their medium wools for at least a 35 cent market. While this may be giving Michigan wool somewhat of a speculative value as based upon present sales, yet all conditions point to a strong future market for this product, and buyers will have enough faith in the future of the product to risk purchases of good wools at this figure.

Statistics of last year's production in this country show a decline of approximately one and a half million pounds as compared with 1914, and a decline of about eight and one-half million pounds as compared with 1913. With domestic stocks well cleaned up and foreign wools practically out of our market for the present, there is every reason why wool growers should be strong holders for at least full present market values.

The Value of a County Agent.
The work of the county farm bureau and the county agent is no longer a matter of experiment in this state. In every county where this work has been organized, valuable results have accrued to the agriculture of the county, and without any question the investment has been a profitable one. Great care has been exercised in selecting the men for this work, and in every instance experience as well as training has been taken into consideration, so that the men selected have been admirably fitted for the difficult task of introducing the county agent work in territory where its benefits were unknown and untried.

Now that the success of the work has been so well demonstrated in a score of Michigan counties, it should not longer be considered an experiment by counties which have not organized for the work. In every case where there is a difference of opinion regarding the possible value of the work to the farmers of the county concerned, all doubt may be quickly dispelled by sending a small committee of successful farmers into some nearby county where the work is already in progress, for the purpose of making a personal investigation as to the benefits derived.

Naturally the development of county agent work has been slow and difficult, not alone owing to the attitude of quite a percentage of the farmers who have considered it of doubtful value, but as well due to the fact that no precedents existed to guide the county agriculturists in the effective planning of their work. Then, too, the fact that agricultural conditions are so different in different sections of the state has added to the difficulty of standardizing methods of work along this line.

No doubt now remains but that the call for county agents will be greater than the ability to supply them from available funds until the Lever fund,

so-called, reaches its maximum limit. However, every effort is being made by the State Board of Agriculture in co-operation with the federal department to place agents in counties requesting them as rapidly as possible.

During recent months several leading articles in the Michigan Farmer have been from the pens of county agents who have touched upon the pressing general problems which confront the farmers of their section. These articles have given but a very narrow idea of the work of the county agents. As above noted, only a visit to the locality where these men are at work will reveal anything like the benefits derived, hence the futility of a general discussion on a proposition which seems already to have been settled by popular approval in a score of Michigan counties where it has been tried out.

Planning for Maximum Profit.

Right at the beginning of the farm campaign for the present year, every factor entering into the relation of the work done and the possible profit to be made should be carefully considered.

Most of us are striving for increased yields of farm crops, and this is a commendable object whenever it can be secured without an increased cost of production which more than offsets the increased yield. Maximum profit does not necessarily mean maximum yield, but it does mean a high yield at a minimum cost of production. It will cost no more, provided proper plans are made and carried out, to plant the crops at a seasonable time and when soil conditions are such as to insure the early growth and rapid development of the seed, and the yield of any crop depends quite largely upon the start which the crop gets. Likewise the planting of good seed which will give high germination of strong plants will tend to make for maximum profit as well as better than average yields. Average yields are comparatively low yields, too low to insure maximum profits. They should be raised to the limit of practical possibility on every Michigan farm without an increase in the cost of production which would be proportionate to the increased yields.

HAPPENINGS OF THE WEEK.

Foreign.

The European War.—The great Verdun battle is now in its ninth week, and general estimates place the number of men so far killed in this greatest of world's battles at around 400,000. The latest general attack by the Germans was checked in practically every portion of the front by the defenders of Verdun. It is believed, however, that further drives will be made. The British captured enemy trenches south of the Bethune-Lebassee road, while a British position at Vermelles was wrecked by mining operations.—On the Russian front several small engagements have occurred with indifferent success to either side. However, preparatory arrangements are being made by the Germans for an offensive movement looking toward the taking of Dvinsk.—Last week on the Caucasus front the Turks attempted to make a general attack along the entire line, which after six days of severe fighting failed and the Turks retreated with Russian forces pursuing them. The Russians have also taken positions defending Trebizond, an important Turkish Black Sea city and fort. In Mesopotamia the British are making another effort to relieve General Townshend and his forces besieged at Kut-el-Amara. Cablegrams indicated that they have met with some success, although reports from Berlin are to the effect that the British troops under General Townshend are near starvation and cannot hold out until the advancing army reaches the fort. English airmen dropped bombs on stations near Constantinople, but the damage is said to be unimportant.

Mexican Affairs.—Gen. Villa has died of gangrene from a gunshot wound, according to reports from the defacto Mexican government. It is claimed that his body has been found and identified and is now being sent to Jaurez for identification by Americans. It appears that General Funston and his staff are not relying upon this news, but give reasons for believing that

Villa is now in the mountains to the west of Parral and plans are being made to attack this position. In a note to Washington last week, General Carranza and his advisers protested against the further invasion of Mexico by American forces. Despite this late objection, the punitive expedition is redoubling its efforts to capture Villa and his followers. Should the report that Villa is dead prove true it will bring the expedition to a sudden end, as the purpose of the invasion will have been satisfied. On the other hand, the present attitude of Carranza's government may precipitate international trouble of a far more comprehensive nature than at present exists.

What is considered as the final word of this government on the U-boat controversy with Germany has been prepared and may be forwarded at any time. Recent violations by Germany of the conditions agreed upon have placed this government in a position where it seems necessary to make a positive stand.

Russia is struggling not only against foreign enemies, but also for the establishment of a more democratic government. For months the Duma, which is a representative body of the people, has been matching its strength against the bureaucracy. Now that the army power is behind the Duma and successful efforts have been made to prosecute members of the government who have played into the hands of foreign enemies, the people are becoming more hopeful for the establishment of a constitutional regime.

While Germany has given the population of Russian Poland an opportunity to govern themselves and has furnished them with seed for the spring planting, Russia has also opened the way whereby neutral countries may send food to this unfortunate people.

The Turkish government announces that the Russian steamship Portugal was sunk in the Black Sea last month by a Turkish submarine. The defense given is that the vessel was not properly painted to designate it as a hospital ship, thus placing the blame on the Russian government.

What is probably another step in the plan of the entente allies to tighten the blockade about the central powers is the action by Russia in cutting off trade to Roumania.

National.

In the last 18 months exports from the United States amounted to \$4,797,266,560, as compared with \$3,545,100,349 for the 18 months preceding the declaration of war.

The present prosperous condition of the automobile industry is revealed by the records of transportation lines, which shows that in March this year 28,600 freight cars were used by auto makers as against 17,192 last year. For the first three months this year auto manufacturers employed 73,203 freight cars against 38,154 for the first quarter of 1915.

What is believed to be one of the largest contracts entered into by an American concern with foreign parties is the \$5,500,000 undertaking by a Chicago company to build waterworks and sewer systems in Uruguay cities. This contract is in line with the general movement to bring South American business to United States concerns.

Ex-Governor Geo. W. Peck, of Wisconsin, author of "Peck's Bad Boy," and many other books for boys, died in Milwaukee, Sunday, after a brief illness.

Charges made on the floor of the United States Senate last Saturday that federal money was being wasted by the National guard organizations, have been denied by Colonel Bersey, Adjutant-General of the Michigan National Guard, at Lansing.

For the second time in three weeks, passengers on the Twentieth Century Limited were in peril when that train crashed into tank cars outside the Union Station at Cleveland.

An effort is being made to secure a congressional act providing a pension for superannuated postal employees.

Despite the fact that the prohibition party for Michigan is co-operating with the Anti-Saloon League in the endeavor to make Michigan a dry state the coming fall, the party will retain its identity by nominating officers in each county.

INDIANA CATTLE FEEDERS' CONVENTION, MAY 6.

The annual spring meeting of the Indiana Cattle Feeders' Association will be held in Lafayette, Indiana, Saturday, May 6. The experimental cattle on feed at Purdue will be finished at that time and opportunity will be given members attending the convention, of seeing these cattle and knowing the cost of production on different rations. The day will be spent in discussion of experimental results and listening to addresses from men prominent in the cattle business. The public is invited.

BUILDING A CISTERN IN A QUICK-SAND BOTTOM.

I wish to build a cistern this summer, but do not know just how to go at it. We are troubled with quicksand. What size would you advise for a family of six? Would like to have the water piped into the house if it can be done without freezing. Please give a rough estimate as to cost.

Midland Co. A. M.

It is possible to build a cistern in a quicksand soil, but very difficult and sometimes, after spending a lot of time and energy the "job" will prove a failure. Where water is continually leaking through a wall or floor from the quicksand it is almost impossible to apply a waterproofing plaster or wash; it would be necessary to dig a hole deeper than the cistern into which the water could drain, and keep it pumped out until the cement had time to set.

I would suggest in your case, that you build the cistern partly below and partly above the surface. It is likely that the quicksand is at least two feet below the ground level. You might excavate down to the quicksand and set up your forms and carry the wall a couple of feet above the surface, digging under the bank at the bottom to give the wall a good footing.

A family of your size will use at least 50 gallons of water a day and at least 50 days' supply should be provided for during the winter season. Thus you will need a tank to hold 2,500 gallons, or a tank 8x10x4 or 6x11x5.

A tank of this size will require six cubic yards of gravel and eight and one-half barrels of cement.

The concrete should be made of good clean, coarse gravel and Portland cement, mixed one part cement to five parts gravel. It should be thoroughly mixed dry, then wet up until fairly wet, (but not so it will run), and well tamped into the forms. The walls should be six inches thick and the floor four. Wire reinforcing should be used in the walls, especially above ground. The top can also be made of concrete, it can be put on flat. Build a false floor of one-inch boards supported by posts, as shown in the drawing, and cover with four inches of cement. Rods a quarter of an inch in diameter should be laid both ways in the concrete, the long rods four inches apart, the short ones six inches. These rods should be placed about one inch from the bottom of the cement. After about three weeks the forms supporting the top can be removed. The walls of the cistern should be plastered about 24 hours after being built, with a plaster made of one part cement, two parts sand and one-fifth of a part of hydrate of lime. Before the water is let into the cistern it should be washed with cream cement. With regard to preventing the pump and pipe from freezing this can be accomplished either by boxing in the pipe and packing with sawdust or some other insulating material, or by simply causing the pump to lose its prime when not in use during extreme cold weather. On the ordinary cistern pump this can be accomplished by simply raising the handle so the piston rests tightly on the bottom of the cylinder.

Mich. Ag. Col. O. E. ROBEY.

ROAD BUILDING IN MICHIGAN.

The Michigan State Good Roads Association will hold its annual convention May 10-12 in Battle Creek and the city is preparing to entertain over 2,000 visitors. It is expected that 81 out of the 84 counties will be represented. The federal department at Washington will make an exhibit. Edward C. Hines, chairman of the good roads commission of Wayne county, will give an illustrated lecture showing good roads progress in territory around Detroit. Governor Ferris is on the program for May 10 and there will be speakers of national fame. There will be a large display of road building material and machinery.

Keweenaw county will expend about

\$50,000 on its roads this year, most of the work being done under the state reward plan. Contracts have been let as follows: A mile and a quarter of concrete road from the Houghton and Keweenaw county line at Allouez to the Mohawk road at North Ahmeek, to Paul P. Roehm, of Laurium, for \$19,756. Five miles of turnpike dirt road from Central to Delaware, to Parks and Labby, of Mohawk, for \$13,750; this road will be built so that it may be macadamized later. One mile of macadam on the Mohawk road, from the county road to the Keweenaw Central tracks in Mohawk, to Hall & Labby, of Laurium, for \$5,818.

Calhoun county has let the contract to Wm. H. Ryan, of Lansing, for building two miles of concrete road on West Main street, Battle Creek, through Urbandale, for \$26,525. The road will be 16 feet wide and eight inches thick at the center.

Four townships of Lenawee county voted bond issues for good roads as follows: Ogden, \$60,000; Dover, \$50,000; Medina, \$5,000; Hudson City, \$20,000. Ogden has already expended more money in building stone roads than any other township of the county.

Van Buren county adopted the county road system by a large majority at the recent election.

Allegan county is active in the good roads movement. Otsego township has voted a bond issue of \$13,000 to improve the highway to Plainwell. Lake-ton township votes to bond itself for nine miles of stone road.

Shiawassee county has an extensive program of road improvement for this year, comprising some 40 miles of state reward highway. Last year the commissioners built about 20 miles of road.

The proposition to bond Clinton county for \$100,000 for good roads was defeated at the recent election by 156 votes.

Delta county carried its proposal to bond for \$100,000 for roads.

The Mt. Pleasant board of trade will co-operate with Isabella county in the work of improving roads leading to that city, offering to assist Union township to the extent of \$250 per mile.

Portland township, Ionia county, voted to expend \$4,500 on a state reward road connecting Portland village with the Orange township highway.

Monroe county has let the contract for 12 miles of road running south from Monroe City to the Ohio line. The construction is two-inch asphalt macadam on a five-inch concrete base.

Oakland county carried the bonding proposition at the recent election and will build an increased mileage of permanent road this year.

Kent Co. ALMOND GRIFFEN.

TO MAKE WHITEWASH.

Whitewash is usually made by slacking lime with water, adding more water and applying with a brush or broom. A whitewash that will last longer than one season on the inside of buildings and which I believe has been recommended in one of the government reports is made as follows: Slack half a bushel of lime with boiling water, keeping it covered; strain and add a peck of salt that has been dissolved in warm water, three pounds of ground rice, boiled to a thin paste, half pound of powdered Spanish whiting and one pound of clear glue dissolved in warm water. Mix and let the compound stand for several days. Apply as hot as possible, using a brush kept especially for the purpose. This whitewash will cost more than the other but it makes a very white smooth surface and is quite enduring. Where whitewash is applied to rough boards, fence posts, etc., for disinfectant purposes a more suitable mixture is made by adding water and some disinfectant to slacked lime. The above formula is intended more for inside finishing where in some places it will be quite as satisfactory as the more expensive paint.—Col. Ag. Col.

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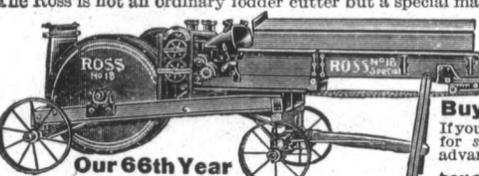


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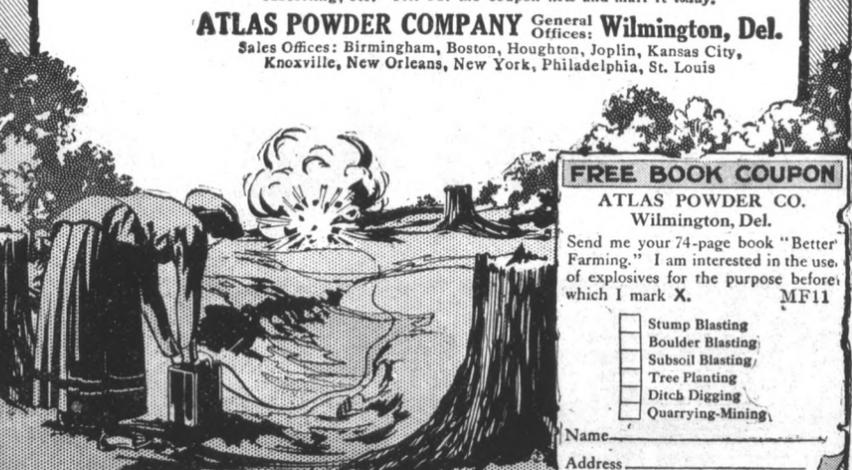
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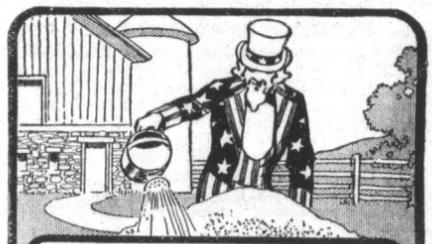
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The Bean Situation

By JAMES N. McBRIDE
State Director of Markets.

There is a blind adherence to the old saying that supply and demand make the price. Great economic changes are taking place, which reveal the fact that a mutual knowledge of supply and demand enables the making of prices much more equitable. In the sale of the 1915 bean crop buyers have been educated to higher prices, which is a marked advantage to the seller. On the other hand, growers have learned to market the crop as it is needed. These two facts are illustrative of the fact that supply and demand are simply two views of the same thing, and not a carefully balanced scale leaving an indelible tracing of price making, inexorable as the laws of the Medes and Persians. From the federal government comes the observation that no other product, nor in any other state, are beans so scientifically marketed as in Michigan.

The standards of grades are and have been fixed for a long time, so that a buyer in the remotest section of the United States knows he will get "choice hand-picked," or the grade he orders. The elevator selling, for example, a carload to Baltimore has the railroad agent or express agent sample a given number of bags, which are guaranteed by the seller to be average samples. This sample is "split," one-half being sent to the consignee and the other to the arbitration committee of the Bean Jobbers' Association. The draft attached to the bill of lading is paid promptly, any dispute as to grades being left to the arbitration committee. Any failure to have delivered the grade sold is promptly assessed as to the amount, and, to the everlasting credit of the association, legal procedure by the slow process of the courts has been avoided and justice done. The purchasers of Michigan beans outside the state have been accorded such justice and at no expense to them by the arbitration committee of the Bean Jobbers' Association and business relations are cordial and satisfactory. This plan of selling reduces the cost of handling charges and is co-operation in selling. The more recent success along the line of business co-operation is the establishment of cor-

dial relations among growers, who are marketing conservatively and not crowding the crop on the elevators all at one time.

For the season of 1916 an opportunity, barring unseasonable crop conditions, is for a most remarkable compensatory market for early beans. The whole country will be cleared of stocks long before the new crop can be moved, and if Michigan beans can be marketed in September, extra prices seem assured. England has been buying Michigan beans for the Allies and the Wall Street Journal says the consensus of opinion is that peace looks to be not sooner than the fall of 1917. The United States has been a buyer of California stocks for the Mexican expedition and canner stocks are not at all heavy. The first effect of the federal embargo against culls for canning has been overcome and culls have gone into stock food, so the 1916 market will call for a heavy stock for the canners.

On ground suited to early working and with the first appearance of a warm soil in June for planting, the grower can have a reasonably certain assurance of a good crop of beans and an extra price. The use of a high-grade phosphorous fertilizer, 250 lbs. to the acre, is an aid to early maturity.

Time spent in sorting out irregular and flat beans, and careful selection of seed to the ideal of the small pea bean means many dollars for the results from the 16 or 20 quarts planted. The undesirable beans are sports; degenerates and of low vitality, not only in germination but in vine. An investigation of different fields leads to the single conclusion that low-grade seed has been the sole reason for an unprofitable crop.

The bean growers will meet in September at Grand Rapids with every feature of the supply and demand of beans for this season at their command. The whole tendency of trade is to command and receive compensatory prices for products. With these conditions as allowed is it any surprise that the United States authorities declare that the Michigan bean crop is handled in the most scientific manner?

A Pension In Trees

ARE we a nation of dollar chasers? Perhaps most of us would like to see how it feels to be rich, but down in the secret recesses of our hearts wouldn't we rather be sure of an old age spent in comfort?

This thought is illustrated by the remark, half jest and half earnest, made to the writer by a successful business man: "I would willingly give up my chances for getting rich if I could be assured of an income of \$1.50 a day as long as I live."

This whimsical notion emphasizes the point that no man needs a fortune but all desire ease of mind about the future.

A National Trait.

Another national trait is our impatience for results. Few Americans are content to wait for years and reap the sure harvest. We want to go gunning for Big Game, and we want it now. Witness the worship of wealth almost universally, and the rainbow chasers who go daffy over fads like Belgian hares, ginseng, pigeon squabs, mushrooms and other popular get-rich-quick schemes.

The opposite point of view is portrayed by a story of a white-haired grandfather who once advised his middle-aged son to set out some apple trees. That busy farmer, concerned with his corn and cattle, replied, that he "never had time to plant an or-

chard, and he wouldn't live long enough to enjoy the fruit anyway."

The patriarch then urged his grandson to plant some trees, but the young man only exclaimed: "Why! Grandpa, you know it takes years and years for an apple orchard to come into bearing. I would be as old as you are before I could get enough apples to make it pay."

The old man then procured some two-year-old trees, laboriously dug the holes and set out the saplings one by one. He couldn't work fast but the old accomplish much because they do not hurry—they just keep steadily at it.

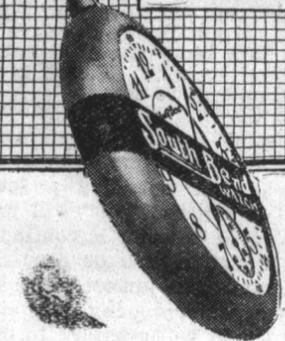
An Orchard as an Investment.

After a year or two grandfather had quite an orchard at one corner of the old homestead. It prospered because he put love into his work. One day, while he was still able to putter round at easy jobs, he brought over to his son's house a hat full of red apples—apples that had been grown on his trees.

"You fellows were so busy with your hay and grain and live stock that I thought I would try my hand at some apple trees, and the sight of 'em makes me feel so spry I reckon I will stay here quite a spell to enjoy their fruit."

From this incident one may easily believe that planting trees is an index of character. Who plants a tree deposits with the bank of nature. To

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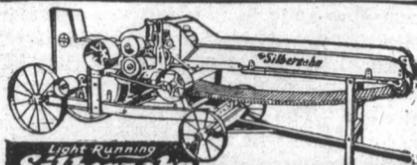
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observe Arbor Day year after year is a sign of good citizenship.

Setting out an orchard requires vision—seeing things before they happen. It takes forethought—planning ahead for the future. It means thrift—for trees increase in value with little care. It implies an unselfish nature—for those trees will be there long after the planter has been garnered to his harvest.

It is not difficult to plant trees in odd places where nothing else is growing. The yard can be made a place of shady delights by the artistic placing of appropriate trees where they will show to advantage. Rough or waste land, vacant spots here and there along a roadway or stream, wind-breaks on the weather side of things—all such locations can be made productive as well as sightly.

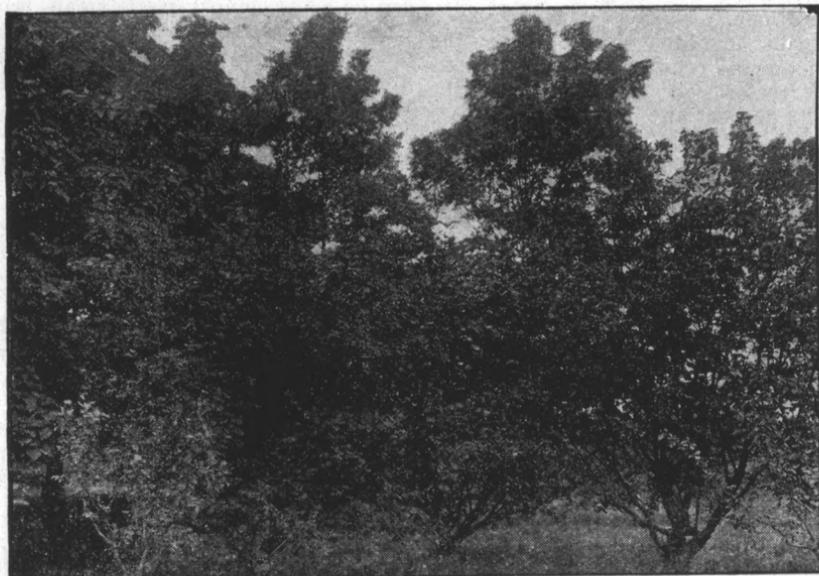
The farmer who plants trees about his place denotes his judgment by the

them by the time the babies are grown up—all this appears like a dazzling mirage too gorgeous to be true. "Why didn't somebody do it before?" Sure enough. And why didn't somebody invent the telephone, or electric light or the thousand other wonders of this generation long ago?

The Possibilities of a Nut Growing Fad.

Possibly walnuts could easily degenerate into a fad. If all the 6,000,000 farmers in the United States and all the city-back-yard enthusiasts suddenly went nutty and planted vast numbers of trees it would upset the balance of things and along about 1930 there would be a grand slump in walnuts. Probably, but not certainly.

The point is that any wide-spread culture of English walnuts is extremely unlikely with human nature as depicted in the beginning of this article. Large numbers of people will not start



Filberts (in front) and Pecans (in back, to the right), Grown in Southwest Part of State.

kinds he selects. There is no great virtue in planting scrubs like the box-elder which gives no fruit, no nuts and no timber worth mentioning, and the shade is often spoiled by dead and falling leaves in mid-summer.

Why set out a soft maple when a hard maple makes a much handsomer growth, produces a delectable sweet, and supplies valuable timber. The sugar maple is slow but when it does grow into a tree it is an asset.

Small capitalists have indulged in a good deal of financial excitement in the past ten years over the pecan. Fortunes have been invested and perhaps fortunes will be made out of them. For colder regions there is but one tree comparable to the pecan and that is the hardy English walnut. This tree, when propagated from cuttings, will thrive in all of our northern states and bear profitably for two hundred years. It is a beautiful, clean, shade tree the wood of which is worth more than mahogany.

Nut Trees Profitable.

The market for the nuts is steady and attractive. They bring fifteen to twenty cents a pound wholesale, and strange to say, the price has kept pace with increased production. In spite of the large number of walnut trees in California, the United States annually imports \$5,000,000 worth of English walnuts and about half a million dollars worth of the timber.

The reason why some people do not grow enthusiastic over walnut trees is their slow growth; they do not begin to bear for fifteen years. Yet the imagination is startled by tales of what the English walnut has done. To read of trees in southern Europe over a thousand years old, and of individuals yielding over 100,000 nuts in a year; to be told that single trees have sold as high as \$3,000 for their wood alone; to remember that in England there are families living in ease and comfort on the income from a dozen or two old walnut trees; to dream of planting a few acres of these splendid trees and enjoying a handsome income from

a walnut grove—not right now. Most Americans are not built that way. They want action on their money and they want to spend the dividends themselves—and quickly.

Planting Trees as an Investment.

For those of the slow-but-sure type of mind the annuity makes a strong appeal. An annuity is where you hand to the cashier a lump sum of money and thereafter as long as you live you walk up to the little window once a year and draw out your earnings—not interest, nor coupons, nor dividends, but what the company risks on your earthly career.

The annuity is just the reverse of life insurance where you pay yearly premiums until you are gray and the company hands your heirs a lump sum when you pass over to the Great Beyond.

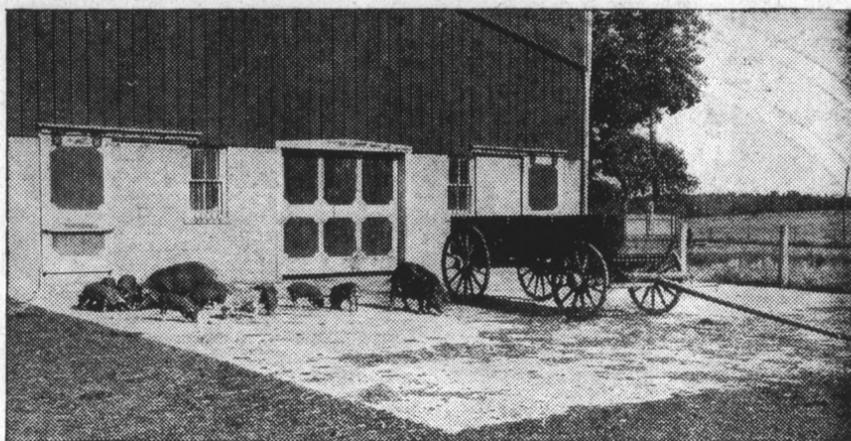
With the annuity, the older you are when you begin, the less you pay for it, and every year you live over the "guess" of the actuary, you beat the game to that extent.

Planting trees on your own land is a little like life insurance and more like the annuity, except that you have to wait a while before returns come in. Yet they soon furnish shade and landscape beauty, and by the time an average middle-aged person reaches the point when he is ready to retire from hard work and rest up a bit, they will supply a steady pension for the remainder of his days and then go on and do it again for the next generation.

The only vital difference between planting English walnuts and corn is that you wait a year for one crop of the latter, while you wait fifteen to twenty years for a perennial harvest of walnuts.

The prospect of making a small deposit with Mother Nature, assured that she will honor her coupons a score of years hence when an old-age pension would be a god-send, is too good to neglect by the few who are long-headed enough to plan "not for a day" but for the future.

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Any one can readily learn to use concrete. We will send simple instructions free. Write for our booklet, "Concrete Feeding Floors, Barnyard Pavements, and Concrete Walks."

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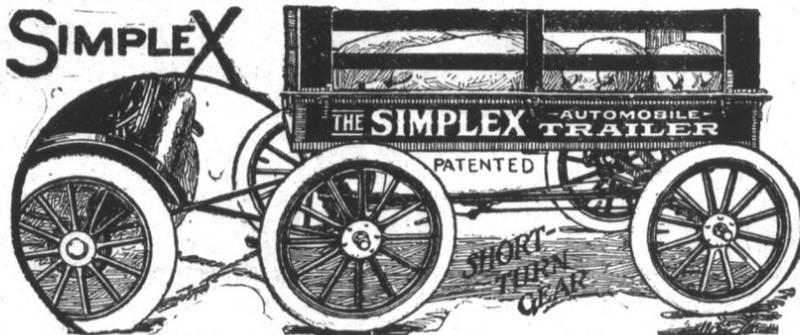
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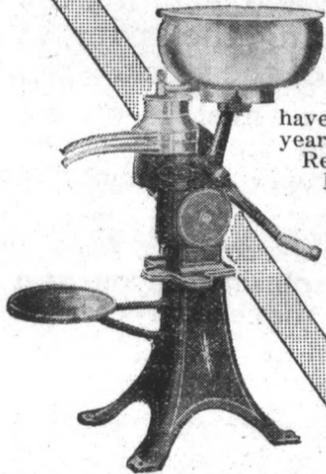
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have been bought by American Farmers in the last two years proves the feeling created by the Reliance. Reliance prestige is steadily growing greater. The Reliance demand will go right on expanding in volume and in enthusiasm. We urge you to assure yourself of immediate delivery so that you may guard against disappointment. If you can secure a Reliance now, protect yourself and take it.

If you cannot do better than arrange for delivery in a month or two, we urge you to take that precaution. Learn more about this machine. A postal will bring the Reliance Book. Send for it.

RELIANCE ENGINEERING COMPANY
Box 563 LANSING, MICH.

The Wool Market

THAT on the actual basis of the Boston wool market, 35 cents to the Michigan grower for medium grades is high, was the consensus of opinion at the wool buyers' meeting held at Detroit last week. On the other hand, some of the real big wool buyers announced that as the price they would pay for good grades of medium wool. The factor of greatest uncertainty is the European war conditions. The bear argument for a 30 to 32 cent wool market to the grower of medium wools is the possibility of the sudden ceasing of hostilities and the removal of the need of the English embargo to force wools to that country. This would release colonial wools to the United States with no duty. The bull argument is that the Wall Street Journal says the best authorities agree no peace is possible before the fall of 1917 and all trade is planned on these predictions.

Again, if peace should come the needs of the country for woolen goods and restoration of Europe's flocks would prevent any drop in prices. Another fact is that ocean freights from Argentina are increased from \$4 or \$5 per bale of 1,000 pounds to \$40. There is no apparent expectation of a change in this direction, which is an item of itself.

There was a cable read from London announcing that higher prices prevailed at the London auctions. The claim was well sustained that the mills were supplied with wool to care for them well into midsummer, since the mills were running on orders they had bought ahead, and that they were under no immediate necessity of buying.

Mr. Flint, of Boston, buyer for Brown & Adams, made an offer for 100,000 pounds to grade medium F. O. B. Boston at 38 cents less one per cent cash in ten days. There was some dispute as to whether the Boston market was really 38 or 39 cents in Boston.

Mr. Popplewell, of Passaic, New Jersey, said the market was 30 cents on good delaines and 37 cents paid for extra Missouri three-quarter blood wool. Many buyers claim that not over half the usual clip of wool exists in their communities.

The present tendencies of the wool market was shown by one of the buyers relating that their local tailor showed him a sack of "trimmings" from his shop that he sold to a huckster at 20 cents per pound. If a huckster could pay that price, it seemed to him that 35 cents was a fair price for medium wool.

Mr. Applebaum, of Fort Wayne, said that wool above 30 cents looked dangerous to him. Some little impatience was expressed at the attitude of the eastern representatives of the wool trade not being more specific, and insisting on expressing themselves oracularly. This latter word, in trade circles, means as one man privately expressed it, "I think wool (the medium grades) is worth 35 cents, but the man who buys below that figure and makes more money will regard me more favorably than if he paid more and made less."

The Boston wool market often has this appearance, when you have wool to sell, the price is down several cents, when you make inquiry and have no wool to offer, the price is quoted up.

Michigan wools are said to be rather above the average in cleanliness this year and proper twines used.

Silberman's representative, from Chicago, has been in the state and offered 34 cents for Shropshire ewe's wool, and 32 cents for western lamb's stock. Some medium wool has been bought at 35 cents and some at 30 cents.

If one can judge the opinion of the trade it is, 35 cents for medium wool, with a degree of hesitation that makes the game hazardous. The war news will be read with great interest by those who have wool to sell.

JAS. N. MCBRIDE,
State Market Director.

FEEDERS' PROBLEMS.

Balanced Ration for Hogs.

Kindly advise me as to how near a balanced ration I have for hogs, with skim-milk, corn and oats, ground, wheat middlings, and corn in the ear, and how much should be fed to hogs averaging about 100 lbs. each, to get the best results?

Hillsdale Co. SUBSCRIBER.

For pigs of the weights mentioned, the combination of feeds available will furnish a sufficiently well balanced ration to produce excellent results. Skim-milk is best combined with corn meal to make a balanced ration by feeding one pound of corn meal with every one to three pounds of skim-milk, according to the quantity of milk available. The oats ground with the corn will reduce somewhat the amount of milk required to balance the feed, as will the wheat middlings. If plenty of skim-milk is available, the proportion of wheat middlings in the ration can be made comparatively small, provided this will reduce the cost of the mixture, although some middlings to give variety and lighten up the feed will be profitable.

Recent experiments conducted on a large scale to determine the amount of grain which it is profitable to feed to hogs when same are on pasture, (and it will be profitable to give pigs of this weight some pasture as soon as it is available), indicate that more economical results are secured where the capacity of the pigs is made the only limiting factor in the ration, hence it would be best to feed these pigs as much as they will consume, especially since they will bring better prices if pushed to an early finish than would be the case if grown more slowly and marketed later in the season.

RAISING ARISTOCRATIC LAMBS.

(Continued from first page).

house the lambs if one produces a lamb of quality that will command the highest price. If the lambs have access to all the bran and corn meal they will eat, besides green feed and their mother's milk, they will grow very fast. Clover or alfalfa hay, a little corn silage or a few roots and a mixture of milk-producing grain foods are what is needed by the ewes that are suckling lambs.

"Too much stress cannot be placed on securing the right type of a ram, one that possesses the general characteristics of his breed and comes from a line of breeding noted for their early maturing qualities.

"Some of my best lambs have resulted from crossing grade Dorset ewes with pure-bred rams. Grade ewes bred to pure-bred Dorset rams seem to give very good results in growing winter lambs quickly. Some of my grade ewes conceive as freely in May as in October, and bred at this time of the year the lambs bring double the price they would if mated at the usual time. Of course, the ewes must be well-fed but should not be too fat.

"I find it is difficult to provide good ventilation for the sheep barns in cold weather. When plenty of sun can be admitted to the building the temperature can be kept more even and the air will be better. My barn is 40x80 feet and with two sheds 20x80 I have plenty of room for my 120 ewes and the two young rams and my 80 head of pure-bred Dorsets. I have gates that may be fastened together to serve as partitions for pens 6x6 feet for the ewes and lambs. Through these pens I make a creep where the lambs can go out and in as they please after they are two weeks old. In the center of the floor I keep troughs filled for the lambs where they can go and eat, returning to their mothers when they wish to take milk. In the corner of each pen is a feed rack with a small box for the ewe's grain and plenty of rack room for her hay. Any man with a little ingenuity can build these racks and gates at times when he is fussing about his sheep barns."

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FOG, DRIZZLE or DELUGE What matter?

Inside a **FISH BRAND REFLEX SLICKER \$3**

you're always dry and happy.

A.J. TOWER CO.
BOSTON

Mention The Michigan Farmer When Writing Advertisers

Senator Dunlap Strawberry Plants \$2.50 per thousand
W. M. Yarger, St. Johns, Mich.

Dairy.

MEETING OF WEST MICHIGAN HOLSTEIN BREEDERS.

Breeders of black and white cattle believe in advertising. The West Michigan Association has been spending some money for publicity during the past year, and will spend more money this year. Members supplying the Grand Rapids city trade have been active in this work and they can see the results.

The association held its spring meeting April 5 in Grand Rapids, when the value of advertising and other topics were discussed. The newspapers have been tried, also street car advertising, and of the two the latter is favored. Other valuable methods were suggested, such as enlisting the co-operation of physicians and securing their endorsement of Holstein milk as an ideal food for children and the best known substitute for mother's milk in infant feeding. Birth records in the daily papers will be watched and Holstein literature as published by the national society, will be placed in every home visited by the stork. N. A. Cole, of Washtenaw county, one of the speakers, gave a valuable suggestion. When in Lima, Ohio, recently, he found on the hotel menu this item: "One bottle of pure Holstein milk."

B. E. Hardy, of Shiawassee county, and others strongly supported another way of advertising this breed of cattle, namely, by making fine exhibitions of herds at the county and state fairs. Mr. Hardy succeeded in rounding up a great bunch of Holsteins for the Shiawassee county fair last fall. Barry county also made a big showing of Holsteins at the Hastings fair and these impressive exhibits are known to be of far-reaching value in spreading the name and fame of Holsteins.

An advertising committee was appointed, composed of A. R. Harrington, C. Hunsberger and J. H. Skinner, and funds in support of this year's campaign will be secured by voluntary contribution of members. A. R. Harrington, of Kent county, gave some impressive facts regarding the high quality of Holstein herds in this section. It was stated that 500 farmers are contributing to the Grand Rapids milk trade every morning, and that almost all of this milk is Holstein.

D. D. Aitken, president of the National Holstein-Friesian Association, and H. A. Moyer, of Syracuse, N. Y., who will conduct the sale of pure-bred cattle following the national meeting to be held in Detroit in June, were present and spoke briefly, urging the Michigan breeders to attend the Detroit convention. They were making a hurried trip through western Michigan, visiting Holstein farms in the interests of this meeting and sale, and were guests while here, of Dudley E. Waters. Mr. Moyer says that he is putting on the greatest bunch of pure-breds ever shown in any sales ring.

N. A. Cole, member of the national committee on official tests, asked for the opinion of members and the vote taken showed every breeder to be in favor of tests lasting nine months, or through the natural lactation period. Longer tests are often made at the sacrifice of offspring and are said to be a "rich man's game."

J. H. Skinner, of the Brewer Farm, told of the continuous tests being made to show what every cow does throughout the year, and also what it costs to produce a pound of butter-fat. No two cows in the large herd are fed just alike. They receive individual attention.

C. L. Burlingham, a federal man, is now working in Kent county in the interests of cow-testing associations, and he gave an outline of the growth and importance of this movement. Cow-testing associations are now working

in 34 states. Michigan led off with an association in Newaygo county in 1905 and there are now eight cow-testing associations in the state. Wisconsin leads with 47, while Iowa and Minnesota each have 20 of these organizations.

Kent Co. ALMOND GRIFFEN.

RESULTS OF COW-TESTING WORK.

Following are the results for 1915 of the Allegan County Cow-testing Association:

We led cow-testing associations in this country for 1914 with an average of 301.3 pounds of fat per cow, which was the first time the 300-pound fat mark had been exceeded.

This year our results are even better. We have an average of 7,364 pounds of milk and 315.4 pounds of fat. We averaged about 215 cows for the year. We consider we have a very good claim to the national championship for 1915. At least, we will consider we hold it until higher averages are produced. Our records can be verified at Washington, D. C.

We increased our milk average over 700 pounds and our fat average 14 pounds per cow. Our net profit per cow is about \$5 greater; reduced the cost of fat nearly a cent a pound, and the cost of milk seven cents per hundred and each dollar expended brought in nine cents more than a year ago. Eleven herds out of fifteen average over 300 pounds of fat per cow. A. B. Lane & Son's Holstein herd led with 10,675 pounds of milk and 403.7 pounds of fat. W. D. Parmelee's herd of Holsteins was second with 10,682 pounds of milk and 385 pounds of fat. C. F. Maskey's herd led the Jersey cohorts with 6,977 pounds of milk and 366 pounds of fat. J. D. Wedge and M. L. Wilmot were close up with their Jerseys, having a 363 and 347-pound fat average respectively.

Ray Vahue, who brought his herd up from 269 pounds of fat to 322 pounds of fat, and led the association in economy of production, deserves special mention. Of the 171 cows that completed a full year's work, 97 made over 300 pounds of fat, 20 made over 400 pounds of fat and two made over 500 pounds of fat. Twenty cows made over 10,000 pounds of milk. (Two of these were Jerseys).

Helen Veeman Artis, a Registered Holstein heifer, owned by M. E. Parmelee, led the association in milk production with 15,012 pounds. She also led the two-year-olds with 471.0 pounds of fat. The best three-year-old was a grade Holstein, owned by W. D. Parmelee, which made 446 lbs. of fat. A grade Jersey belonging to C. B. Wehner, led the four-year-olds with 523.8 pounds of fat. Another grade Holstein owned by W. D. Parmelee, won premier honors in the mature class with 527.3 pounds of fat. This cow was high cow for the whole association also. Two Jerseys led the association when net profit is considered. One, a grade, with \$94.43, and the other a registered cow, with \$88.67. A grade Holstein pressed the latter closely with \$88.60 profit.

We have had some encouraging gains among our members this year, and we hope to keep up the good work in 1916. The county infirmity herd that was low herd a year ago, made a gain of 31 pounds of fat per cow, and we expect even more another year. The herd that leads this year with 403 pounds of fat made but 320 pounds of fat last year.

The seven Jersey herds averaged 6,111 pounds of milk and 322.7 pounds of fat and the seven Holstein herds averaged 8,624 pounds of milk and 312.4 pounds of fat. Our two-year-olds averaged 299.8 pounds of fat for the year and one three-year-old averaged 293.8 pounds of fat. Our four-year-olds averaged 342.0 and our full-aged cows averaged 321 pounds of fat. Our low herd averaged 230 pounds of fat.

Allegan Co. ROBT. ADDY.

Clean Skimming
Easy Turning
Easy Washing
Small Repair Cost
Best Cream Quality
World's Highest Awards



DE LAVAL Stands On Its Record

FOR nearly forty years the De Laval Cream Separator has led in the cream separator field. It was the pioneer in 1878. It had a long start and has always held its lead. It has always led in every step of cream separator development and popularity, and more De Laval's are in use today than all other makes combined.

It has always been recognized as the closest skimming cream separator. That's the main reason why 98% of the world's creameries use it to the exclusion of all others.

Because of its cleaner skimming, ease of operation and wonderful durability, every De Laval user is a "booster" and the better its work is known in a neighborhood the more popular it becomes.

The better quality of cream it produces is attested by the fact that De Laval produced cream and butter have scored highest at every annual contest of the National Buttermakers' Association for twenty-four years and in every great representative contest for over thirty years. Last but not least, the De Laval was awarded the Grand Prize at the San Francisco Exposition in 1915 as at every other great exposition since its invention.

The creamerymen's choice can't be far wrong. The world's greatest dairymen and mechanical experts who act as judges at the great expositions can be depended upon to recognize real merit, and the fact that the De Laval is the choice of the majority of all cream separator buyers must mean a good deal to you. In your purchase of a cream separator can you afford to ignore these considerations?

Let the De Laval start saving cream for you right now. See the nearest De Laval agent at once, or if you do not know him write us direct for any desired information.



THE DE LAVAL SEPARATOR CO.

165 Broadway, New York 29 E. Madison St., Chicago
50,000 BRANCHES AND LOCAL AGENCIES THE WORLD OVER

Save Money, Room and Fuel

Kalamazoo Pipeless One Register Furnace

SET in cellar—connect with big register set in floor of one of main rooms—heats the whole house with forced warm air—easy to set up—no pipes to fit except smoke pipe.

Free Trial—Cash or Easy Payments

Write at once for manufacturer's factory price. We pay freight and ship within 24 hours. If you prefer a pipe furnace we shall be glad to make up plans free and quote prices. Write today and ask for Furnace Catalog No. 909.

KALAMAZOO STOVE CO., Manufacturers, KALAMAZOO, MICH.
300,000 families using Kalamazoo Stoves, Ranges, Gas Stoves, Furnaces, White Enameled Metal Kitchen Cabinets and Tables.
4 catalogs—say which you want.

We Pay Freight

A Kalamazoo Direct to You



"Natco On The Farm"

is the title of our new book that every farmer who takes pride in his farm buildings should have. It shows with many fine illustrations the use of Natco Hollow Tile for barns, houses, corn cribs, etc. Send for it. Study it. Also get our Silo Catalog and learn about the money-saving, worryless, repairless

Natco Imperishable Silo

"The Silo That Lasts for Generations"—that perfect ensilage preserver that can never blow down, decay, warp, crack, crumble or burn. So efficient that a great demand for other Natco buildings was created and they are now springing up everywhere. Send for these books. Ask for free plans and advice. Let us save you money for years to come. Write now.

National Fire Proofing Company
1115 Fulton Building - Pittsburgh, Pa.
23 Factories—Prompt shipments.

Market the Milk

Raise your calves and get the bigger money to which you are entitled. But do not feed the calf whole milk, with butter fat worth \$600 a ton.

You can sell all the mother cow's milk or butter and make your calf pay you a big profit on its feed, by raising it on

RAISE YOUR CALVES

WITH BLATCHFORD'S CALF MEAL

Blatchford's Calf Meal

The Recognized Milk Equal
You get 100 gallons of rich milk feed from 100 pounds of Blatchford's Calf Meal, and it costs you only one-fourth as much. It will make your calf grow fast and well. Blatchford's Calf Meal is composed of the elements the young calf needs in the most trying period of its life; it is thoroughly steam cooked—prevents bowel troubles and other ills due to improper milk substitutes.



Blatchford's Calf Meal Factory
Madison St., Waukegan, Ill.
E. C. Beard, Hagerstown, Md., writes: "I can say Blatchford's Calf Meal will pay anyone 100 Pct. that has calves to raise."

CULL BEANS FOR FEED. Write if you can use a car or less.
YOUNG-RANDOLPH SEED CO., Owosso, Mich.

Mention Michigan Farmer when writing to advertisers

Farm Notes

When to Sow Alfalfa.

I want to sow a piece of alfalfa and am undecided when to sow. This piece of ground was clover sod well manured and planted to potatoes in 1913. In the spring of 1914 I fitted it and sowed to alfalfa June 1. I inoculated soil and seed and the alfalfa came up nicely but knot grass soon came in so thick that it crowded the alfalfa very hard. I clipped it twice; the first time we raked up two large loads of hay, (knot grass, not alfalfa), from three acres. In the spring of 1915 no knot grass showed up, but there was some alfalfa all over the piece (about enough to make one-third of a stand). The alfalfa plants all had nodules on. Last September I plowed this ground, turned under weeds and alfalfa and applied two tons of agricultural lime to three acres and top-dressed with manure. Will seeding in April get the alfalfa ahead of the knot grass? I believe that this knot grass is the worst drawback that the alfalfa has.

St. Joseph Co.

A. J. K.

The best time to sow alfalfa depends altogether upon the condition of the soil and the weather conditions which prevail. On a piece as well prepared as this one which has been both well manured and well limed, and well inoculated by the previous growing of inoculated alfalfa, the best plan would, in the writer's opinion, be to sow as soon as possible, using a light seeding of oats or beardless barley as a nurse crop. If weather conditions are favorable and there is a good distribution of moisture up to harvest time, the oats can be permitted to mature grain without any serious setback to the alfalfa seeding.

Last year the writer sowed a piece which had had very similar treatment, using only 20 pounds of oats per acre. A very thrifty stand of alfalfa was secured, and as there was plenty of moisture, the oats were permitted to mature, yielding about half a crop or a little more than 30 bushels per acre. Another piece having had similar treatment will be sown in the same manner this spring.

On land which has not been previously seeded to alfalfa, and which is rather foul, it is a better plan to keep same summer fallowed until mid-summer and seed without a nurse crop, but where the soil has had as good preparation as has been given this field, an even more vigorous stand of alfalfa can be secured, as it will get a larger growth before winter by seeding with a light nurse crop of spring-sown grain. In case dry weather comes and there is danger of injury to the seeding from this cause, the oats or barley can be cut for hay at any time and this danger be obviated.

We have never had any bad encroachment of weeds or grass where alfalfa was seeded in this manner. The piece sown last year was at a previous seeding without a nurse crop nearly choked out by crab grass, almost none of which showed at last year's seeding.

Seeding Sweet Clover.

I am going to sow some sweet clover this spring and would like to have some advice. My soil is sandy. What time would you sow, and would it go to seed if it was sowed this spring so I could have my own seed another year?

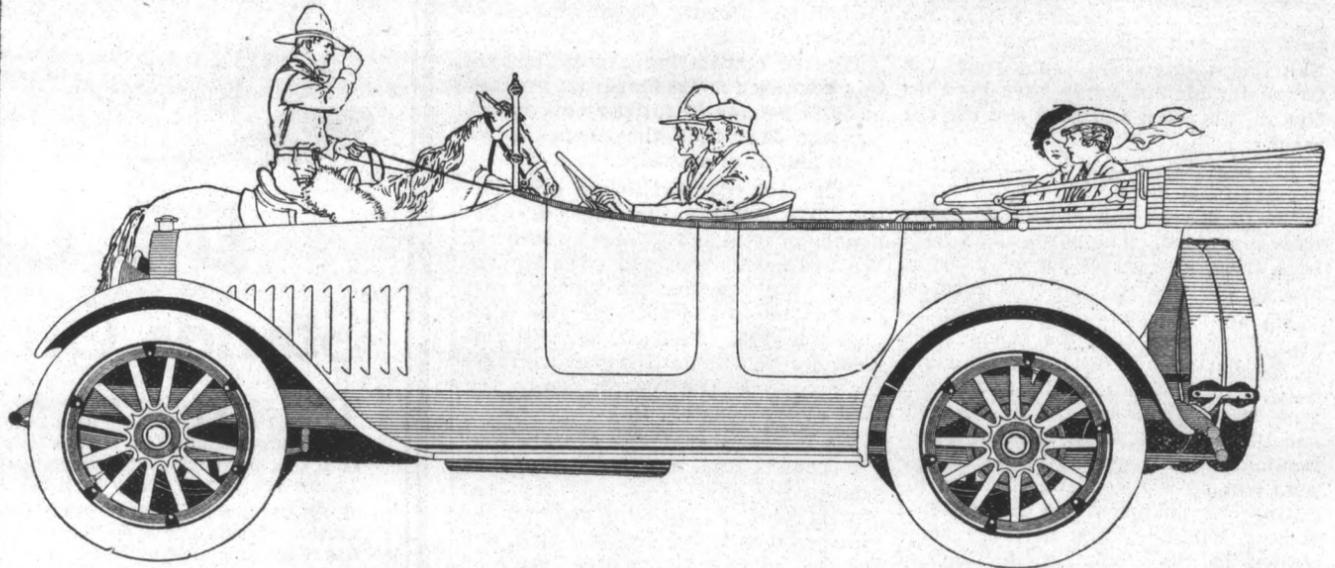
Wexford Co.

C. W. S.

If conditions are suitable, it is the consensus of opinion among those who have had success with sweet clover that it is better to sow same in spring than in midsummer. Sweet clover, however, requires a good firm seed bed for best results, and it is difficult to get a satisfactory seed bed for early seeding if the land is plowed in the spring, although if well fitted by repeated harrowing and rolling it is entirely possible.

Sweet clover will not seed the first year; it is a biennial which does not blossom and bear seed until the second year, after which the plants die and the stand is lost unless allowed to re-seed.

Planet, Jr. farm and garden implements are fully illustrated and described in a 72-page catalog sent upon request by this well-known company.



Price, \$1090 Detroit—One Reason For a 900 Per Cent Increase in One Year in Chalmers Farm Business

A car that merely looks well, "steps" smartly, and rides comfortably on boulevards, is emphatically not for the rigorous demands of the American farmer.

The value of length of life in a piece of machinery is nowhere more thoroughly understood and more keenly sought, than on the farm.

Length of life is a thing of scientific certainty in the 3400 r. p. m. Chalmers. Its high engine-speed is in part responsible, for the higher the engine speed, the less the side-thrust of the crankshaft, and the side-thrust means destructive wear and tear that rips an engine to pieces.

Long life is also insured by the big margin of reserve between your normal driving speeds and this car's safe maximum engine-speed of 3400 revolutions per minute.

3400 r. p. m. does not mean that the engine turns at this high rate at all times. It means that it can attain this record speed without skipping and with absolute safety. Normally, you do not require any such crankshaft turning. At 10 miles an hour, for instance, you

need only 500 r. p. m., at 20 you require 1000 r. p. m., and at 30 miles 1500 r. p. m.

Here is conservation of energy at its best; ahead of the 3400 r. p. m. stretch years of obedient work; and all intelligent judges of machinery know that a car thus built and thus conducting itself cannot wear itself out in a few years of hard usage.

Buyers, moreover, are reminded that with every 3400 r. p. m. Chalmers goes a book of 100 half-hour free service and inspection coupons, negotiable at any Chalmers dealer's on the map.

Go and see this machine the next time you go to town. Examine her engine. And you'll no longer be in doubt what machine you ought to own.

Five-Passenger Touring Car, \$1090 Detroit

Two-Passenger Roadster, \$1070 Detroit;

Three-Passenger Cabriolet, \$1440 Detroit;

Color of Touring Car and Roadster—Oriford Maroon or Meteor blue. Three-Passenger Cabriolet—Oriford maroon, Valentine green, or Meteor blue. Wheels—standard dark, primrose yellow or red. Wire wheels optional on Roadster or Cabriolet at extra cost.

Chalmers Motor Company

Detroit

APPLETON Silo Filler

Actual records prove that Appleton Silo Fillers cost the least in service

per ton of silage put up or per year of life. Tremendously strong construction makes an Appleton practically proof against breakdown. Solid oak and steel frame, mortised, braced and bolted; impossible to pull out of line. Many exclusive power and labor saving features, such as independent belt driven blower allowing speed to be adjusted for minimum use of power for any height silo; frictionless feed table running on chilled iron rollers; knives spiraled to give clean shearing cut, requiring least use of power. (10 lengths of cut, 5-16 to 2 1/2 inches.) Lowdown cut-under frame, easy to handle. Both feed rolls and table controlled by single lever. Positive self-working safety device.

Two Books Free: One on silo building and silage crops; the other a complete catalog of Appleton Silo Fillers in four sizes for 4 h. p. gasoline engines and up. Write Appleton Mfg. Co., 420 Fargo Street, Batavia, Ill.



Guaranteed to do more and better work with less power than any other silo filler.

Seed Potatoes Russet Rurals

Free from Late Blight. Orders filled as received. Shipment on or after May 15. Price \$1.50 per bu. pit run. f. o. b., Kendall, Mich.

THE CAHILL FARMS KALAMAZOO, MICH.

SEED POTATOES

Late Petoskey. The best late potato for yield, market and freedom from blight and scab. Medium size, graded potatoes. 2 to 10 bu., \$1.25 per bu.; more than 10 bu., \$1.20 per bu. Bags free. Special prices on large orders.

WALLACE BROS. Bayshore, Mich.

Seed Corn Pickett Yellow Dent, 1914 crop. Tests show above 98%. Shelled and soaked at \$.07 per pound, F. O. B. Grand Rapids. J. P. Munson, Pres. Kent Co. Farm Bureau, Grand Rapids, Mich. R. F. D. 9.

A Famous Cow In a Famous Stall



Finderne Pride Johanna Rue holds a wonderful record as a milk producer—the result of blue blood, good care and scientific feeding.



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hold the world's highest record for thoroughly satisfactory service—for convenience, economy, labor-saving, time-saving and all around efficiency. Before you equip your barn, send for the Free Libbey Book which shows the newest and most highly improved modern barn equipment, including Stalls, Stanchions, Carriers, Watering Bowls, Cupolas, Horse Stall Fixtures, etc. Write for your copy of this book today. It's well worth having.

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Magazine Section

LITERATURE
POETRY
HISTORY and
INFORMATION

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

The FARM BOY
and GIRL
SCIENTIFIC and
MECHANICAL

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

WHILE it may appear that there is a never-ending supply of Easter lilies with which to decorate church chancels and the home on Easter morning, it is a fact that this kind of lily is becoming more and more difficult to raise, with consequent increase in price, due to the fact that the bulbs which are imported from Japan and Bermuda are more or less diseased. It is said that more than 3,000,000 bulbs are annually imported from Bermuda and that an acre of ground will produce from \$1,000 to \$2,000 worth.

The Supply of Easter Lillies

Because of the diseased condition of the imported bulbs and because of a desire to keep as much money at home as possible, the Department of Agriculture has been at work for some time studying this problem, and has demonstrated beyond a doubt that healthy bulbs can be readily and profitably produced in this country from seed and that disease-resistant strains can eas-

ily be maintained. The proposition has not proven as easy as might be supposed. Suitable climatic conditions were determined easily enough but it was found that almost every bulb imported for propagation purposes was badly infected with the disease, in some cases 75 per cent of the resulting plants being worthless.

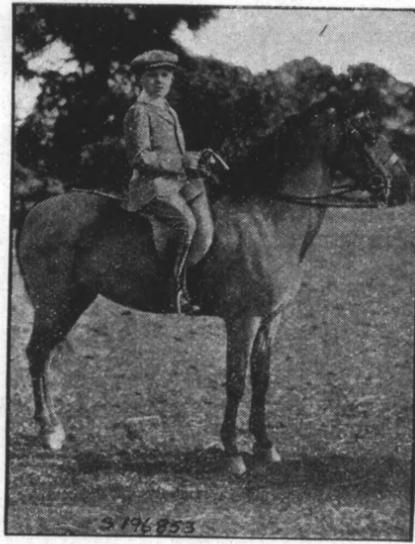
When the suggestion that the bulbs

be grown from seed was first made, the government horticulturists ran into the statement that many years—from three to five—were required to produce a flowering bulb from the seed. Nothing daunted, George W. Oliver, one of Uncle Sam's horticultural experts, began experimenting and the results attained were most startling. Instead of "three to five years" Mr. Oliver has obtained blooming plants within 14 months from the time of planting seed—not a spindling stem with one or two blooms at the end, but a strong sturdy

WORLD EVENTS IN PICTURES



A Popular Mode for the 1916 Summer Girl.



Spanish Crown Prince an Outdoor Enthusiast.



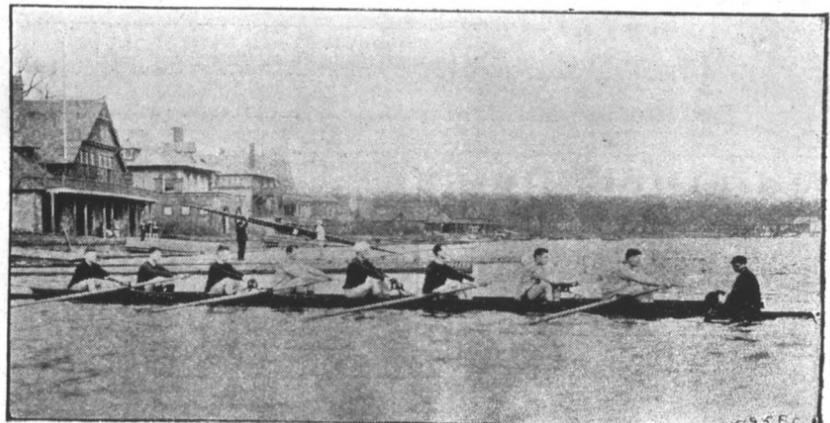
President of France Visits Trenches at Verdun.



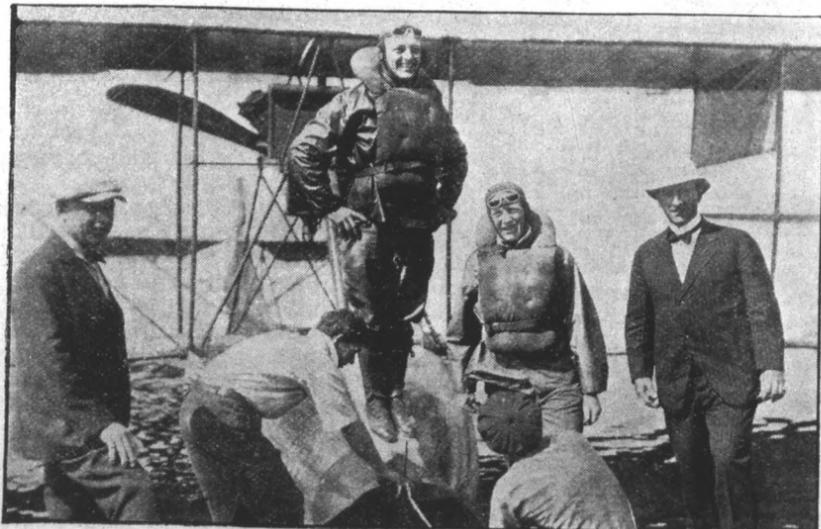
Smart Spring Hat and Collar of Embroidered Linen.



Soldiers Carrying Aero Torpedoes Through a Wood on Haute De Meuse.



The Pennsylvania Crew are Training Hard for the Contest with Yale.

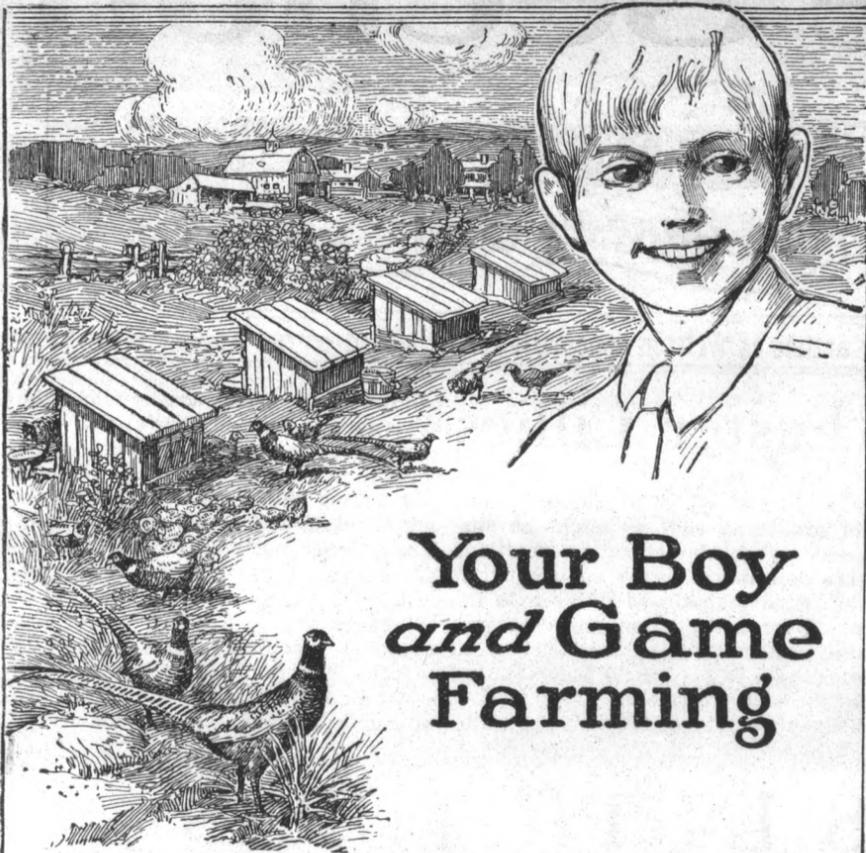


Philadelphia's \$40,000 Pitcher Takes a Trip in an Aeroplane.



German Engineers Constructing New Defenses on the Russian Front.

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Your Boy and Game Farming

HAVE you ever considered what an opportunity game farming, as it is developing in this country, affords your boy? It offers him a splendid chance to show his worth, increase the value of your farm, and, what is most important to him, earn extra pocket money.

Thousands of ambitious, industrious boys on American farms are playing a big part in the intensive development of our agricultural resources. Game farming falls right in line with their activities.

Profit and Pleasure in Game Farming

This is a profitable and pleasant industry for you and your wife as well as your children.

The breeding of game birds is profitable from a marketing standpoint. The demand for eggs and for breeding stock is much greater than the supply, and will be for years to come. Pheasant eggs, for instance, sell today at from \$20 to \$25 a hundred. Live birds bring from \$5 to \$7 a pair.

It will, at small expense in time and trouble, supply you with an abundance of food for your own consumption. Pheasants, wild turkeys, and other birds

forage much of their own food and require comparatively little attention.

Game farming will provide more shooting for you and for everyone, for it is a fact that game raised for sporting purposes cannot be confined in any restricted area. At the same time those who own large acreage, or who pool their land with others, get profit from those who pay for sport.

If you yourself haven't the time to devote to game farming give your boy a chance at it. You put up the money—and it won't be much. Let him contribute the work. You will find the combination a good one.

Write today, or let your son write, for the booklet, "Game Farming for Profit and Pleasure." You will find it well worth reading. Please use the coupon below.

Game Breeding Department, Room 208.
HERCULES POWDER CO.
Wilmington, Delaware

Manufacturers of Explosives; Infammable and "E. C." Smokeless Shotgun Powders; L. & R. Orange Extra Black Sporting Powder; Dynamite for farming.

Game Breeding Department, Room 208.
Hercules Powder Company, Wilmington, Delaware

Gentlemen:—Please send me a copy of Game Farming for Profit and Pleasure. I am interested

in game breeding from the standpoint of _____

Very truly yours,

Name _____

Address _____



Pedigreed Oats:

Worthy, Alexander and other varieties, bred by the Michigan Agricultural College, best of hundreds of varieties tested. Grown in Michigan and adapted to Michigan conditions. Reported upon by farmers as follows: "The oats produced 85 bushels per acre, best yield in township." "Your pedigreed oats have a very stiff straw and are good yielders." "Were far better than my own variety." "Best crop we have had in ten years." "Best we ever grew." Etc. Write to Secretary Mich. Experiment Association, East Lansing, Mich.

WHITE SWEET CLOVER
Specially treated for quick germination. ALSO FANCY MEDIUM MAMMOTH ALSIKE AND ALFALFA CLOVERS, TIMOTHY SEED, WINTER VETCH, etc. Ask for samples and special price list.
YOUNG-RANDOLPH SEED CO., OWOSSO, MICH.

Choice Seed Corn

Yellow Dent, ripens early, heavy yielder of grain and stalks. 98% germination. \$2.50 per bu. of ears.
A. A. Lambertson, Cedar Springs, Mich.

FRANCIS Ever-bearing strawberry plants for sale. Booklet Fall-bearing strawberry culture free. W. F. Tindall, the Fall-bearing strawberry man, Cosy Nook Farm, Boyne City, Mich.

SWEET CLOVER Builds Worn Out Soil. Has higher protein content than alfalfa. Write for prices and information.
Everett Barton, B. 129, Falmouth, Ky.

Write for Samples and Prices of
White Bonanza Seed Oats
One of the best varieties grown in Michigan.
Young-Randolph Seed Co., Owosso, Michigan

Seeds That Grow more for your money than others give. Special prices on garden peas per bu. Catalogue Free. Allens Seed House, Geneva, Ohio.

For Sale White Cap Dent Seed Corn, 1914 crop. A limited supply, \$3.25 per bu, shelled corn.
GEO. HARRISON, Clayton, Mich.

First-Class 2 Yr. Trees, 4 to 5 ft. YOUR CHOICE
12 Apples \$1.00, 12 Pears \$1.50, 12 Quince \$2.00, 12 Plums \$1.50, 12 Cherry \$1.75, 12 Peaches (1 yr.) \$0.96. John W. Finn's Wholesale Nurseries, Danville, N. Y., Catalog free.

20 Apple Trees only \$1.00
Duchess, Wealthy, Wagener and others, 3 to 5 ft., No. 2's. Also 20, 4 to 6 ft. 1st class of medium size, \$2.00, and 20 heavy No. 1, 3 yr. 5 to 7 ft., \$3. Gobleville Mich. Nurseries.

Pump Comforts

There's nothing that makes farm life more worth while than an abundance of pure water for kitchen, bath, lawn, garden, barns, dairy, troughs, fire protection, etc. Goulds Pumps are reasonable in price, and cost little to maintain. Our service Dept. advises free on selecting from the 300 styles of

GOULDS PUMPS
FOR EVERY SERVICE
—hand, windmill, Gasoline, motor, rigidly tested, Guaranteed. Backed by 65 years' experience. Send to-day for our new free book "Water Supply for the Country Home." Address Department M

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Fig. 1531 "Pyramid"

Plant Trees Crown at Monroe, Michigan

If you want vigorous, hardy stock. If you want reliable varieties, if you want reasonable prices and satisfaction with your purchase, send for a catalog and secure your trees and plants from

THE MICHIGAN NURSERY COMPANY
Winkworth & Sons, Monroe, Michigan
Growers for Sixty-seven Years.

stem with a cluster of 15, 20 or even 30 large beautiful flowers. This success is most encouraging.

Having riddled old theories and demonstrated to their satisfaction what could be done the government horticulturists began to practically foster American lily growing by distributing seed to hundreds of would-be producers, but here again it was uphill work. In some instances it was impossible to convince the florists and seedsmen that it was possible to produce in one season a flowering plant from a tiny seedling two inches high. In other cases where the seeds or seedlings were planted, the gardeners in charge could not resist the temptation to accept a five or a ten dollar bill for a bunch of blooms, offered by some visiting florist. Others, however, saved the blooms for themselves in order to sell them to local customers, clearing more than \$200 from little plots of ground not more than a thousand square feet. But the Easter lily cannot supply flowers and bulbs, too, and consequently the cutting of the blooms robs the future bulb of its vitality.

"Those florists, however, who stuck by their agreement with the department and grew the seedlings for the bulbs alone," said Mr. Oliver recently, "were more than pleased with the results. In the vicinity of Santa Ana, California, where the soil and climate are very favorable, many of the bulbs grew from seven to nine inches in circumference. The largest bulb grown was 14½ inches in circumference, al-

most a cabbage in size. Compared with the little kernels imported from Bermuda these indeed portend a new era in Easter lily growing. As for florists, we had one plant that had 35 blossoms on it after a growth of only 14 months.

"While thus far lily farms have been firmly established only on the Pacific coast," continued Mr. Oliver, "I believe there are many other sections where some degree of success may be attained. In the South Atlantic states, along the Gulf Coast of Texas and in the southern part of that state, in Arizona and even in the state of Washington, lily farms may be established.

"We have made a fine start in inducing the small growers in California to take up Easter lily propagation, but what we need most is to get some of the large seedsmen interested to the extent that they will plant a dozen or more acres with seedlings. But so long as there is a local market close at hand for the Easter lily blooms, little progress can be expected from our small co-operators toward the establishment of an American Easter lily bulb industry."

But what the Department of Agriculture has so far accomplished should be hailed with joy for Easter, without the Easter lily setting would, to most church-goers, be sadly wanting. There is perhaps no flower more radiant and lovely in its dazzling whiteness and purity than the Easter lily and as a type emblematic of the Resurrection it has become a fixed symbol.

Light of Western Stars

By ZANE GREY

Turning to look in the other direction beyond the tent, she saw the remnants of last night's temporary camp, and farther on a grove of beautiful pines, from which came the sharp ring of the ax. Wider gaze took in a wonderful park, not only surrounded by lofty crags, but full of crags of lesser height, many lifting their heads from dark-green groves of trees. The morning sun, not yet above the eastern elevations, sent its rosy and golden shafts in between the towering rocks to tip the pines.

Madeline, with the hounds beside her, walked through the nearest grove. The ground was soft and springy and brown with pine-needles. Then she saw that a clump of trees had prevented her from seeing the most striking part of this natural park. The cowboys had selected a campsite where they would have the morning sun and afternoon shade. Several tents and flies were already up; there was a huge lean-to made of spruce boughs, cowboys were busy round several campfires. Piles of packs lay covered with tarpaulins, and beds were rolled up under the trees. This space was a kind of rolling meadow, with isolated trees here and there, and other trees in aisles and circles; and it mounted up in low grassy banks to great towers of stone five hundred feet high. From under a mossy cliff, huge and green and cool, bubbled a full, clear spring. Wild flowers fringed its banks. Out in the meadow the horses were knee-deep in grass that waved in the morning breeze.

For a few days the prevailing features of camp life for Madeline's guests were sleep and rest. Dorothy Coombs slept through twenty-four hours, and then was so difficult to awaken that for awhile her friends were alarmed. Helen almost fell asleep while eating and talking.

The men were more visibly affected by the mountain air than the women. Castleton, however, would not succumb to the strange drowsiness while he had a chance to prow around with a gun. This languorous spell disappeared presently, and then the days were full of life and action. Mrs. Beck and Bob-

by and Boyd, however, did not go in for anything very strenuous. Edith Wayne, too, preferred to walk through the groves or sit upon a grassy promontory that commanded a wide view over the western foot-hills. It was Helen and Dorothy who wanted to explore the crags and canons; and when they could not get the others to accompany them they went alone, giving the cowboy guides many a long climb.

Necessarily, of course, Madeline and her guests were now thrown much in company with the cowboys, and the party grew to be like one big family. Her friends not only adapted themselves admirably to the situation, but came to revel in it. As for Madeline, she saw that outside of a certain proclivity to be gallant and on dress parade, and alive to possibilities of fun and excitement, the cowboys were not greatly different from what they were at all times. If there was a leveling process here, it was made by her friends coming down to meet the westerners.

Madeline found the situation one of keen interest. If before she had cared to study her cowboys, now, with the contrasts afforded by her guests, she felt by turns amused and mystified and perplexed and saddened, and then again subtly pleased.

Monty Price, once he had overcome his shyness, became a source of delight to Madeline, and, for that matter, to everybody. Monty had suddenly discovered that he was a success among the ladies. Either he was exalted to heroic heights by this knowledge, or he made it appear so.

Dorothy Coombs had been his undoing, but, in justice to her, Madeline believed her innocent. Dorothy thought Monty hideous to look at, and accordingly, if he had been a hero a hundred times, and had saved a hundred little babies' lives, he could not have interested her. Monty followed her around, reminding her, she told Madeline, of a little adoring dog one moment and the next of a huge, devouring gorilla.

Nels and Nick stalked at Helen's heels like grenadiers on duty; and if she as much as dropped her glove they



And the Easter Flowers Add Hope to Hope.

almost came to blows to see who should pick it up.

In a way, Castleton was the best feature of the camping-party. He was an absurd-looking man, but his abilities were at tremendous odds with what might have been expected of him from his looks. He could ride, tramp, climb, shoot. He liked to help around the camp, and the cowboys could not keep him from it. He had an insatiable desire to do things that were new to him.

The cowboys played innumerable tricks on him, not one of which he ever discovered. He was serious, slow in speech and action, and absolutely imperturbable.

Presently the cowboys began to understand him, and then to like him. When they liked a man, it meant something. Madeline had been sorry more than once to see how little the cowboys chose to speak to Boyd Harvey. With Castleton, however, they actually became friends. They did not know it, and certainly such a thing never occurred to him; all the same, it was a fact. And it grew solely out of the truth that the Englishman was manly in the only way in which cowboys interpreted manliness.

When, after innumerable attempts, he succeeded in throwing the diamond-hitch on a packhorse, they began to respect him. He needed only one more accomplishment to claim their hearts, and he kept trying that—to ride a bucking broncho.

One of the cowboys had a broncho that they called Devil. Every day for a week Devil threw the Englishman all over the park, ruined his clothes, bruised him, and finally kicked him. Then the cowboys solicitously tried to make Castleton give up; and this was remarkable enough, for the spectacle of an English lord on a bucking bronco was one that any westerner would have ridden a thousand miles to see.

Whenever Devil threw Castleton, the cowboys went into spasms; but Castleton did not know the meaning of the word fail, and there came a day when Devil could not throw him. Then it was a singular sight to see the men line up to shake hands with the cool Englishman. Even Stewart, who had watched from the background, came forward with a warm and pleasant smile on his dark face.

When Castleton went to his tent there was much characteristic cowboy talk, and this time vastly different from the former persiflage.

"Well!" ejaculated Monty Price, who seemed to be the most amazed and elated of them all. "That's the fust Englishman I ever seen! He's orful deceivin' to look at, but I know now why England rules the world. Jest take a peek at that bronco! His spirit is broke. Rid by a leetle English dook no bigger'n a grasshopper! Fellers, if it hain't dawned on you yit, let Monty Price give you a hunch. There's no flies on Castleton. I'll bet a million steers to a rawhide rope that next he'll



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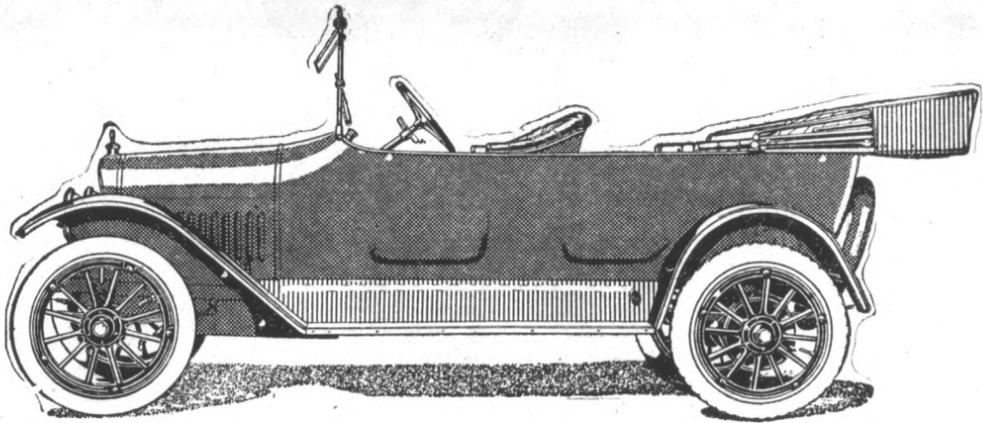
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be throwin' a gun as good as Nels!" It was a distinct pleasure for Madeline to realize that she liked Castleton all the better for the traits brought out so forcibly by his association with the cowboys. On the other hand, she liked the cowboys better for something in them that contact with easterners brought out. This was especially true in Stewart's case. She had been wholly wrong when she imagined that he would fall an easy victim to Dorothy's eyes and Helen's lures. He was kind, helpful, courteous, and watchful; but he had no sentiment. He did not see Dorothy's charms or feel Helen's fascination.

So it came about that Madeline unconsciously admitted the cowboy to a place in her mind never occupied by any other. She thought of a reason for his indifference to the other women; but she drove the amazing and strangely disturbing thought from her. Nevertheless, as she was human, she could not help enjoying the discomfiture of the two coquettes.

Moreover, from this thought of Stewart, and the watchfulness growing out of it, she discovered more about him. He was not happy. He often paced up and down the grove at night; he sometimes absented himself from camp during the afternoon when Nels and Nick and Monty were there; he was always watching the trails, as if he expected to see someone come riding up. He alone of the cowboys did not indulge in the fun and talk around the camp-fire. He remained preoccupied and sad, and was always looking into the distance.

Madeline had a strange sense of his guardianship over her; and, remembering Don Carlos, she imagined that he was anxious about his charge, and, indeed, about the safety of all the party.

But if he feared possible visits from wandering guerillas, why did he absent himself from camp? Suddenly into Madeline's inquisitive mind there flashed a remembrance of the dark-eyed Mexican girl, Bonita, who had never been heard of since that night when she rode Stewart's big horse out of El Cajon. Perhaps Stewart had a rendezvous in the mountains, and these lonely journeys of his were to meet Bonita.

With the idea, hot blood flamed into Madeline's cheek. Then she was amazed at her own feelings—amazed because her swiftest succeeding thought was to deny the charge—amazed that its conception had fired her cheek with shame. She was swayed by a strong pride, and her instinctive woman's faith told her that Stewart could not stoop to such dishonor. She reproached herself for having momentarily thought of it.

A favorite lounging spot of Madeline's was a shaded niche under the lee of crags facing the east. Here the outlook was entirely different from that on the western side. It was not red and white and glaring, nor so changeable that it taxed the attention. This eastern view was one of the mountains and valleys, where, to be sure, there were arid patches, but the restful green of pine and fir was there.

Here, in the shade of afternoon, Madeline and Edith would often lounge under a low-branched tree. Seldom did they talk much, for the place was dreamy with the strange spell of this mountain fastness. There were a smoky haze in the valleys, a fleecy cloud resting over the peaks, a sailing eagle in the blue sky, silence that was the unbroken silence of wild heights, and a soft wind laden with incense of pine.

One afternoon, however, Edith appeared prone to talk seriously.

"Majesty, I must go home soon. I cannot stay out here forever. Are you going back with me?"

"Well, perhaps," replied Madeline, thoughtfully. "I have considered it. I shall have to visit home some time; but this summer mother and father are going to Europe."

"Majesty Hammond, do you intend

to spend the rest of your life in this wilderness?" asked Edith bluntly.

Madeline was silent.

"Oh, it is glorious! Don't misunderstand me, dear," went on Edith earnestly, as she laid her hand on Madeline's. "This trip has been a revelation to me. I did not tell you, Majesty, that I was ill when I arrived. Now I'm well—so well! Look at Helen, too. Why, she was a ghost when we got here, and now she is brown and strong and beautiful. If it were for nothing else than this wonderful gift of health, I should love the west. But I have come to love it for other things—even spiritual things. Majesty, I have been studying you. I see and feel what this life has made of you. When I came, I wondered at your strength, your virility, your serenity, your happiness. I wondered at the causes of such a change. Now I know. You were sick of idleness, sick of uselessness, if not of society—sick of the horrible noises and smells and contacts one can no longer escape in the cities. I am sick of all that, too, and I could tell you of many women of our kind who suffer in a like manner. You have done what many of us want to do, but have not the courage. I can see the splendid difference you have made in your life. I think I should have discovered, even if your brother had not told me, what good you have done to the Mexicans and cattlemen of your range. Then you have work to do. That is a great cause of your happiness, is it not? Tell me. Tell me something of what it means to you!"

"Work, of course, has much to do with any one's happiness," replied Madeline. "No one can be happy who has no work. As regards myself, for the rest, I can hardly tell you. I have never tried to put it in words. Frankly, I believe, if I had not had money I could not have found such contentment here. That is not in any sense a judgment against the west. But if I had been poor I could not have bought and maintained my ranch. Stillwell tells me there are many larger ranches than mine, but none just like it. Then I am almost paying my expenses out of my business. Think of that! My income, instead of being wasted, is mostly saved. I think—I hope—that I am useful. I have been of some little good to the Mexicans, and have eased the hardships of a few cowboys. For the rest, my life seems like a kind of dream. Of course, my ranch and range and cowboys are real. If I were to tell you how I feel about them, it would simply be a story of how Madeline Hammond sees the west. All these things are true to the west. It is I who am strange, and what I feel for them may be strange, too. Edith, hold to your own impressions!"

"But, Majesty, my impressions have changed. At first I did not like the wind, the dust, the sun, the endless open stretches; but now I do like them. Where once I saw only terrible wastes of barren ground, now I see beauty and something noble. Then at first, your cowboys struck me as dirty, rough, loud, crude, savage, all that was primitive. I did not want them near me. I imagined them callous, hard men, their only joys a carouse with their kind. But I was wrong. The dirt was only dust, and this desert dust is clean. They are still rough, loud, crude, and savage in my eyes, but with a difference. They are natural men. Monty Price is one of nature's noblemen. Nels is a joy—a simple, sweet, kindly, quiet man whom some woman should have loved. What would not love have meant to him? He told me that no woman had ever loved him, except his mother, and he lost her when he was ten. Every man ought to be loved—especially such a man as Nels. Somehow his gun record does not impress me. I never could believe he killed a man. Then take your fore-shall have to visit home some time; but this summer mother and father are going to Europe." Majesty Hammond, do you intend in the habit of saying make a gentle-

man. Stewart is a strange fellow, just like this strange country. He's a man, Majesty, and I admire him. So you see my impressions are developing with my stay out here!"

"Edith, I am so glad you told me that," replied Madeline warmly.

"I like the country and I like the men," went on Edith. "One reason I want to go home soon is because I am discontented enough at home now, without falling in love with the west. For, of course, Majesty, I would, I could not live permanently out here. And that brings me to my point. Admitting all the beauty and charm and wholesomeness and good of this wonderful country, still it is not place for you, Madeline Hammond. You have your position, your wealth, your name, your family. You must marry. You must have children. You must not give up all that for a quixotic idea of life in a wilderness."

"I am convinced, Edith, that I shall live here all the rest of my life."

"Majesty, I don't wish to preach, but I promised your mother I would talk to you. And the truth is, I hate—I hate what I'm saying. I envy you your courage and wisdom. I know you have refused to marry Boyd Harvey. I could see that in his face. I believe you will refuse Castleton. Whom will you marry? What possible chance is there for a woman of your position to marry out here? What in the world will become of you?"

"Quien sabe?" replied Madeline, with a smile that was almost sad.

Not so many hours after this conversation with Edith, Madeline sat with Boyd Harvey upon the grassy promontory overlooking the west, and she listened once again to his suave courtship. Suddenly she turned to him and said:

"Boyd, if I married you, would you be willing—nay, glad—to spend the rest of your life here in the west?"

"Majesty?" he exclaimed.

There was amazement in the voice usually so even and so well modulated—amazement in the handsome face usually so indifferent. Her question had startled him. She saw him look down the iron-gray cliffs, over the barren slopes and cedared ridges, beyond the cactus-covered foot-hills to the grim and ghastly desert. Just then, with its red veils of sunlit dust-clouds, its illimitable waste of ruined and upheaved earth, it was a sinister spectacle.

"No," he replied, with a tinge of shame in his cheek.

Madeline said no more, nor did he speak. She was spared the pain of refusing him, and she imagined that he would never ask her again. There were both relief and regret in the conviction. Humiliated lovers seldom make good friends.

It was impossible not to like Boyd Harvey. The thought of that, and why she could not marry him, concentrated her unsatisfied mind upon the man. She looked at him and she thought of him.

He was handsome, young, rich, well-born, pleasant, cultivated—he was all that made a gentleman of his class. If he had any vices, she had not heard of them. She knew he had no thirst for drink, no craze for gambling. He was considered a very desirable and eligible young man. Madeline admitted all this.

Then she thought of things that were perhaps exclusively her own strange ideas. Boyd Harvey's white skin did not tan, even in this southwestern sun and wind. His hands were whiter than her own, and as soft. They were really beautiful, and she remembered what care he took of them. They were a proof that he never worked. His frame was tall, graceful, elegant. It did not bear evidence of ruggedness.

He had never indulged in any sport more strenuous than yachting. He hated effort and activity. He rode horseback very little, disliked any but moderate motoring, spent much time in Newport and Europe, never walked when he could help it, and had no am-

bitation, unless it were to pass the days pleasantly. If he ever had any sons, they would be like him—only a generation nearer the inevitable extinction of his race.

Madeline returned to camp in just the mood to make a sharp, deciding contrast. It happened—fatefully, perhaps—that the first man she saw was Stewart. He had just ridden into camp and as she came up he explained that he had gone down to the ranch for the important mail about which she had expressed anxiety.

"Down and back in one day," she exclaimed.

"Yes," he replied. "It was not so bad."

"But why did you not send one of the boys and let him make the regular two-day trip?"

"You were worried about your mail," he answered briefly, as he delivered it.

Then he bent to examine the fetlocks of his weary horse.

It was midsummer now, Madeline reflected, and exceedingly hot and dusty on the lower trail. Stewart had ridden down the mountain and back again in twelve hours. Probably no horse in the outfit, except his big black or Majesty, could have stood that trip.

Stewart looked as if he had spared the horse his weight on many a mile of that rough ascent. His boots were evidence of it. His heavy flannel shirt, wet through with perspiration, adhered closely to his shoulders and arms, so that every ripple of muscle plainly showed. His face was black, except round the temples and forehead, where it was bright red. Drops of sweat, running from his blackened hands, dripped to the ground.

He got up from examining the lame foot and threw off the saddle. The black horse snorted and lunged for the watering-pool. Stewart let him drink a little, then with iron arms dragged him away. In this action the man's lithe, powerful form impressed Madeline with a wonderful sense of muscular force. His wrist was bare; his big, strong hand, first clutching the horse's mane, then patting his neck, had a bruised knuckle, and one finger was bound up. That hand expressed as much gentleness and thoughtfulness for the horse as it had strength to drag him back from too much drinking at that dangerous moment.

Stewart was a combination of fire, strength, and action. These attributes seemed to cling about him. There was something vital and compelling in his presence. Worn and spent and drawn as he was after his tremendous ride, he thrilled Madeline with his potential youth, his unused vitality, his promise of things to be—red-blooded deeds, both of flesh and spirit. In him she saw the strength of his forefathers unimpaired.

He was only a cowboy; but the life in him was marvelously significant. The dust, the dirt, the sweat, the soiled clothes, the bruised and bandaged hand, the brawn and bone—these things were not despised by knights of ancient days, nor by modern women whose eyes shed soft light upon coarse and bloody toilers.

Madeline Hammond compared the cultured man of the east with the uncultured man of the west; and that comparison was the last parting regret for her old standards.

One day, while out walking alone, Madeline followed a dim trail winding among the rocks. It was the middle of a summer afternoon, and all about her were shadows of the crags crossing the sunlit patches. The quiet was undisturbed.

She went on and on, not blind to the fact that she was perhaps going too far from camp, but risking it because she was sure of her way back, and because she enjoyed the wild, craggy recesses, which were new to her. Finally she came out upon a bank that broke abruptly into a beautiful little glade. Here she sat down to rest before undertaking the return trip.

(Continued next week).



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Woman and Her Needs
At Home and Elsewhere




The Present Trend

WE often sigh for the "good old days," but it is doubtful if any of us, given the choice, would really care to go back to the time of our grandfathers. To be sure, they missed the strenuousness of these modern times, but there was much about them that does not compare favorably with modern ways, when we place the two side by side for close inspection.

In the matter of "glooms," for one thing. Who would care to go back to the days when laughter and joking were looked upon as next door to downright sin, and much that we now see as innocent pleasure was condemned? We are all glad that "Sunshine in my Soul" songs have replaced "Hark from the Tombs a Doleful Sound," and that the idea of living right today is superseding the doctrine of preparing for death.

We wouldn't go back to the old way if we could. But of late it seems we had better stop right where we are, for so many of us are going so far with the sunshine talk that we are quite averse to hearing there is any such thing as gloom. We have so accustomed ourselves to the doctrine that it is better to think beautiful thoughts, that many of us are quite put out if anyone mentions anything unpleasant.

Say in a company of a dozen persons who are banded together for a good time, that So-and-So is in danger of losing his home, or that his wife is threatened with tuberculosis, or that one of the boys is getting into bad company, and a half-dozen people will at once try to hush you up. Bad luck, ill health or disgrace being unpleasant things to think about are absolutely forbidden subjects of conversation, and you are jokingly but firmly told, if you can't tell something pleasant you had better keep still.

Granted croakers are not agreeable companions, isn't it better to croak occasionally and have things remedied than to shut our eyes to misfortunes and have them overtake our friends, when a little mention of facts might help to avert trouble? Trouble and sickness and sorrow are with us as plentifully today as when our grandfathers made them the chief food for thought. The fact that we are exempt ourselves has not banished them from earth, and are we not selfish to refuse to recognize their existence in other lives just because Providence, luck or our own good management has driven them from ours? It doesn't follow that because my coal bin is full and my larder well stocked, that my neighbor is warm and well fed. Would it not be better for me to listen to a tale of ill luck and go out and feed my neighbor, rather than to shut my ears to "gloomy" conversation because it upsets my own poise and robs me of the sleek sense of self-satisfaction that comes with prosperity?

None of us want to sit down and listen to a long detailed account of a lingering disease or a sordid tale of scandal. That is not the idea. But why hush up every allusion to sickness or misfortune when by spreading a knowledge of it the sufferer may be helped? No loathsome wound is ever healed by wrapping a cloth around it and saying it isn't there. It must be cauterized and disinfected and dressed and watched carefully. So misfortune and sorrow are not cured for others if we calmly shut our eyes to them and sing about the sunshine in our own souls. And the sunshine we get by

such methods is a very spurious kind. The only true sunshine comes when we recognize our duty to our less fortunate neighbors, open our ears to the cry of the suffering and give them of our sunshine to drive out their gloom.

The idea of harboring only pleasant thoughts is in danger of being sadly overworked. By all means keep sweet, but do not do it by refusing to open your ears to the cry of the needy.

DEBORAH.

EXCELLENT WAYS OF SERVING DRIED FRUITS.

BY MRS. JEFF DAVIS.

Very few housewives serve dried fruits often enough as a substitute for the fresh variety in winter. There are many delicious ways of serving these other than the ordinary sauce, or stewed, dish.

The dried fruits most used in cooking are prunes, raisins, peaches, apricots, apples and figs. Preparatory to cooking dried fruit should be covered with warm water and allowed to soak for 24 hours in a covered dish. They will then have swollen to their original shape and become tender.

It is an accepted fact that one pound of prunes or raisins will furnish the body as much nutriment as the same amount of lean meat or white bread.

The following are easily prepared, and delicious dishes:

Dried Fruit Omelet.—Make an omelet the usual way and before folding over, spread on a cupful of prunes or raisins previously cooked, drained, mashed and slightly sweetened. This is new and delicious.

Apples and Bacon.—Soak dried apples and drain them. Then fry like fresh apples and serve with breakfast bacon.

Dried Fruit Muffins.—Add a cupful of finely chopped cooked prunes or dates to the muffin batter. This will be a new dish which the children will greatly enjoy.

Dried Fruit and Cereals.—Cooked chopped dates and figs added to the breakfast cereal makes a more nutritious and palatable dish.

Dried-Fruit Short Cake.—Make a good rich baking powder biscuit dough. Roll into a round cake and bake in a pie tin. When done split and butter well. Soak dried apples, peaches, pears, or apricots in water over night, after washing them thoroughly. Use just enough water to cover well. In the morning put on fire in the water in which they were soaked, add sugar and a little chopped ginger root, or a little ground cinnamon. When tender drain off liquor and chop fine. Pour the liquor on again and spread between the warm short cake layers and over the top. Serve with cream. This is nice cold but better eaten hot.

Raisin Pie.—One-half cupful of white bread crumbs, one cupful of milk, two eggs, two tablespoonfuls of butter, one-third cupful of sugar, one teaspoon of lemon juice and one-half cupful seeded raisins. Soak the bread crumbs in milk for 15 minutes. Cream together the butter and sugar. Then add the lemon juice, turn this into the beaten eggs. Add to the bread crumbs, beat well and add the raisins. Turn into a pastry shell and bake a light brown.

Prune Pie.—Use the above recipe, using equal proportions of prunes and raisins.

Dried Fruit Roly-Poly.—Make baking powder biscuit dough, roll into a

long sheet, spread with stewed and chopped dried apples, peaches, pears, or apricots. Roll up like a jelly cake and bake in a moderate oven. When done cut into slices and serve hot with or without cream or pudding sauce.

Dried Fruit Berry Gems.—This recipe may be used for currants and raisins as well as dried blackberries and raspberries. Line small gem pans with pastry, fill the centers with the stewed fruit, sprinkle with sugar and bake in a quick oven. Turn out carefully and serve hot with or without sauce.

Dried Fruit Cake.—Mix three cups of flour, two teaspoons of baking powder, two tablespoons of sugar, and a half teaspoon of salt. Rub in two tablespoons of butter; beat two eggs, add a cup of milk and stir into the dry mixture, adding more milk if necessary to make a thick batter. Spread half an inch thick on shallow, greased pans, and press into the batter soaked and pitted prunes, or any washed and soaked dried fruit. Sprinkle thick with sugar and bake in a quick oven.

Dried Fruit Tapioca.—Soak a cupful of tapioca in a pint of water two hours, then drain off water and cover with milk and cook until tender, stirring in just before removing from the fire the yolks of two well-beaten eggs, a heaping tablespoonful of sugar and a dusting of nutmeg. Add one cupful of any desired dried fruit which has been stewed, and well chopped. Cover with a meringue made from the beaten whites of the eggs and serve with a sauce made from the syrup in which the fruit was cooked. Add a little cornstarch dissolved in a little water to the juice to thicken.

Dried Fruit Dumplings.—In place of quartered apples in dumplings take large prunes which have been soaked and pitted, halved peaches, or apricots, cooked until just tender, or figs or dates, steamed until tender.

Jellied Dried Apricots.—Heat to the boiling point four cupfuls of cooked dried apricots in their juice, then add two tablespoonfuls of gelatine which has been softened in one-fourth cupful of cold water and two tablespoonfuls of lemon juice, or one tablespoonful of vinegar. Turn into a lightly buttered mold, and when thoroughly cold turn out and serve with cream.

Dried Apricots and Pineapple.—Soak apricots over night and stew them in the water in which they were soaked, adding sugar to taste. Just before they are ready to remove from fire add some finely chopped canned pineapple. This is delicious used as a preserve, and is good for filling for shortcake.

A Nice Supper Dish.—Children enjoy this dish for supper. Add a cupful of raisins and prunes which have been well cooked, to a cupful of rice, rub through a colander, add the yolk of an egg, a little sugar and a squeeze of lemon. Thin with water and cook a few minutes.

Dried Fruit Salad.—Plumped raisins, prunes, dates or figs may be combined with diced apples, celery, oranges, pineapples and salad greens and any kind of dressing for a salad.

By using baking powder a good sponge cake may be made with two eggs. As sponge cake recipes given in cook books call for from five to ten eggs a saving is thus effected. The following recipe is tested: Two eggs, well beaten; one cup granulated sugar, one and one-half cups of flour sifted with two rounding teaspoonfuls of baking powder. Beat well, add a half-cup of boiling water and bake at once in a hot oven.

The Milk Inspection Problem

By FLOYD W. ROBISON.

WE next come to a consideration of the question as to "How shall the quality of milk entering into city milk consumption be judged?"

The question itself suggests the answer. In other words, we are prepared to recognize the fact that we are concerned with the milk, not with the dairy farm primarily. It is the product of the farm which is under consideration and not the farm itself. We believe that the best information regarding the product itself can be obtained by a careful study of that product. While many inspection forces in the cities have been busying themselves with a critical study and inspection of the farm supplying milk to the city, the milk itself in many cases has been allowed to go unquestioned.

Undoubtedly there are many farms which, upon inspection, would pass well the score card requirements and the milk from these farms be decidedly inferior to milk produced from another farm which would not pass so well in the score card system.

The Laboratory is Needed in Milk Inspection.

Steps should be taken, therefore, by a milk inspection department first of all to install facilities for a study of the milk itself as it appears at the gates of the city. We would by no means do away with dairy farm inspection. We think the farmers themselves would not have this inspection cease, particularly when it is performed by diplomatic, conscientious and capable inspectors.

It will be argued that there are many difficulties in the way of inspecting the milk from the laboratory point of view, but there are surely no greater difficulties than are now entailed by the farm to farm inspection. One inspector cannot cover well a great many farms in a day. If he inspects, and inspects well, from six to a dozen farms in a single day he will have performed a good day's work. It is easily possible for an analyst in a laboratory to examine many more samples of milk in one day than this, and examine them well. We therefore feel that it would be more to the real interest of the consumer that the inspection forces should spend possibly not less time in the field but certainly more time in the laboratory. It is our experience that farmers are not antagonistic to an inspection and scoring of their dairy farm. They are as interested as anyone to produce from that farm a high-grade article of milk. They do not always see the necessity of installing new articles of equipment or of changing this or that item for the sake of appearances only, but when it is explained to them and clearly pointed out that a certain change will not involve an enormous outlay of money and will at the same time improve the product perceptibly, there is usually little difficulty in securing the dairyman's active co-operation.

What Does a Laboratory Test Show?

What items should be considered, then, in the analysis of the milk in the laboratory? The object of inspection is to secure a wholesome product, conforming in its food value to the law, and to insure freedom from foreign matter and from any possible infectious and contagious diseases. A laboratory analysis should determine that the milk has a good, clean flavor, and is free from objectionable odors; that it carries a low temperature; is free from sediment, and reasonably low in bacteria count. Ordinarily speaking, perhaps, the bacteria count is the best criterion, for a carelessly produced milk will almost invariably be high in bacteria content. Some cities have placed the limit of the bacteria in raw milk at 100,000 per cubic centimeter. Certified milk must not exceed 10,000 per cubic centimeter.

The introduction of certified milk

has proven that it is possible to produce milk commercially without pasteurization, sterilization or preservation, which will carry a low bacteria count. The certified milk farm at Lansing, Michigan, is so conducted that the milk seldom contains over 2,000 bacteria per cubic centimeter. This is so low that it approaches perfection in this respect. The certified milk in the city of Detroit rarely reaches the limit, that is, 10,000 per cubic centimeter, and when it is realized that the great majority of the raw milk coming into the city contains from 100,000 to 500,000 bacteria per cubic centimeter, and much of it reaches into the millions, then the high degree of perfection attained in certified milk is appreciated.

Does Pasteurization Insure Good Milk?

It has been said by some that the city pasteurizes its milk anyway, therefore, why is it necessary to make any inspection of either the farm dairy or the milk itself as it enters the city? The answer to this question must be that, while pasteurization, if effectively carried out, does minimize the danger from infection and contagion, and does reduce to a minimum the bacteria count, at the same time clarification, pasteurization or sterilization does not make a milk which was bad when it entered the city, good after the treatment.

Bacteria Are Indicators of Contamination.

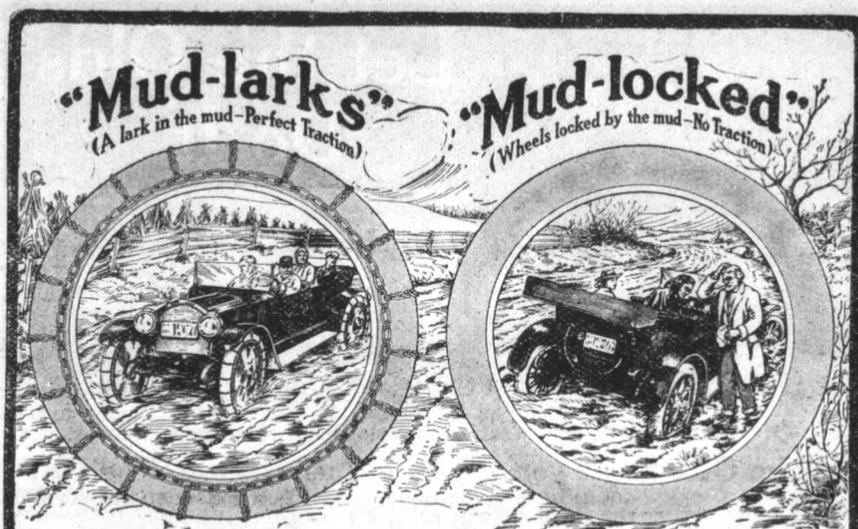
Raw milk with a very high bacteria count must be an exceedingly inferior article of food for a miscellaneous collection of germs in milk does not improve the product in any way. They represent contamination, not through the bacteria themselves but through foreign matter getting into the milk to which the bacteria cling. There is not much danger of grossly contaminating milk through air in the stable. Of course, milk will absorb odors from the air, but large numbers of bacteria will not gain access to the milk through the medium of air alone. If bacteria get into milk they do not get in there as bacteria themselves, but they represent some other foreign material in which they have existed in enormous quantities. Dirt from the stable, from the clothes of the milker, or from the flanks and udder of the cow contains millions of bacteria, and these particles, falling into the milk pail, carry bacteria with them. And so bacteria themselves are not the real sources of the contamination but are merely the active indicators of the foreign material which was introduced into the milk at the time these germs gained access to it. Furthermore, it is not the sediment or insoluble material in milk which makes milk bad. It is the soluble materials which have gone into solution in the milk and which we not only do not see at all but which would only be indicated by a very high bacteria count.

Removal of Sediment Does Not Make Milk Pure.

We once directed that a shipment of milk which was exceedingly dirty and contained much sediment, and which was altogether unfit for consumption, be held up, our intention being to return it to the producer. It was turned over without any specific directions to a city milk inspector with whom we were co-operating at the time. He released the shipment of milk after the owner had strained it, thus eliminating and removing the sediment. The milk was just as bad after straining as before; nothing was accomplished at all except the removal of the indicator by which the consumer would know the milk was bad.

The consumer's interests are not advanced by the clarification of milk unless efficient pasteurization accompanies the clarification. We all agree that sediment in milk is unsightly and undesirable. What many do not know

(Continued on page 561).



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A Word of Warning

Do not be deceived by a dealer who offers to sell you Weed Chains at cut prices. He is attempting to sell you our second quality tire chain, Rid-O-Skid, with the hope that you will believe you are purchasing the genuine Weed Chains at a bargain.

Weed Chains can easily be identified—the name "Weed" is stamped on every cross chain hook, and each pair is packed in a brown canvas bag. Every cross chain is specially welded, tempered and inspected—of diamond-like hardness and smoothness, but not brittle.

Rid-O-Skids haven't as many cross chains and are made of softer material—they are not heat treated as are those on the Weeds, and the side chains are not plated to prevent rusting. Each pair is packed in a white canvas bag.

Owing to the greater cost of the material used in the manufacture of Weed Chains, their sale prices must necessarily be higher than those of our Rid-O-Skid chain.

If you ignore the maxim "Initial Cheapness is False Economy" and purchase Rid-O-Skid chains instead of Weed Chains, you will at least be much wiser than the man who takes chances by depending on rubber alone, and later experience will prove that Weed Chains give much greater mileage and are, therefore, cheaper in the end.

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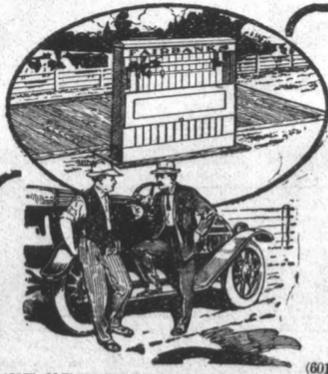


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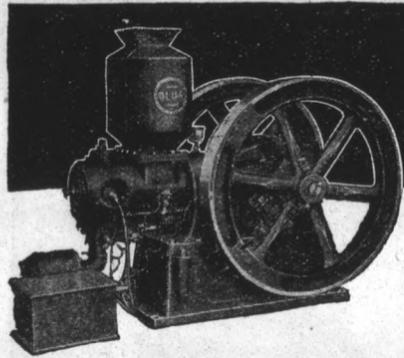
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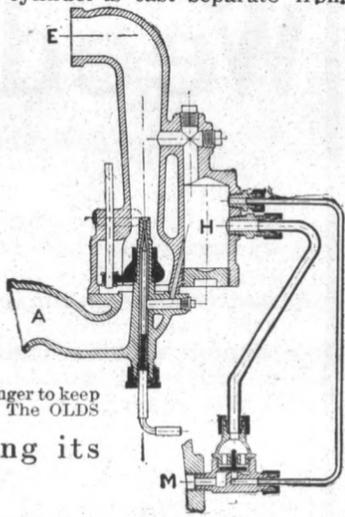
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Let the **OLDS** number you among its 150,000 satisfied users.



RELIANCE ENGINEERING COMPANY
997 Walnut St. Lansing, Michigan

Farm Commerce.

Special Markets for Perishables

REACHING the most profitable market is not always possible, unless the fruit man employs out-of-the-ordinary methods of shipping. Oftimes a heavy demand is made for strawberries, raspberries, cherries, etc., in a distant market, but the farmer realized that he can not successfully ship his product the distance, and satisfies himself with a less profitable closer market.

What is known as the refrigerator shipping box solves the problem for fruit growers. This box has been very successfully used by Florida fruit men in shipping strawberries to the New York market, while Ozark berry men use it in reaching Chicago, and other markets. These boxes are pony refrigerators, holding from 64 to 80 quarts of berries, and as the walls are double thick, insure the fruit reaching market in prime condition.

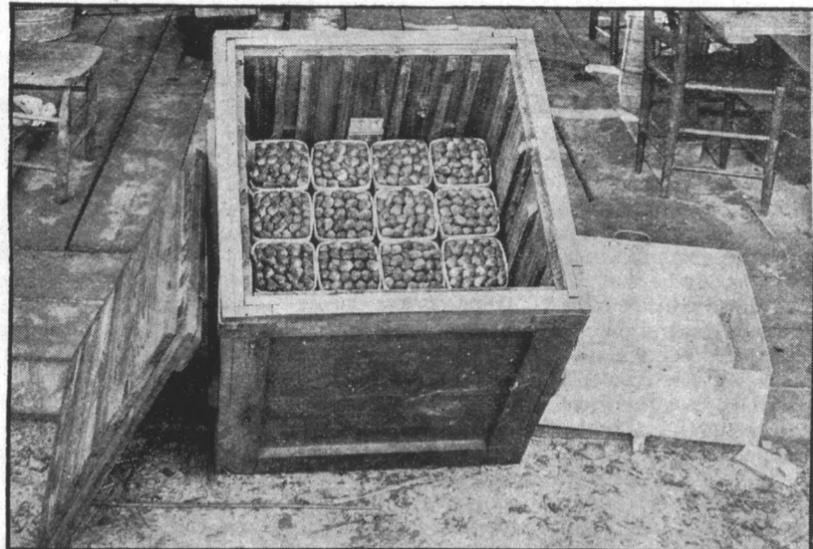
After the fruit has been packed in the box in neatly arranged boxes, a metal tray is placed above the berries and this is filled with ice. The main advantage of the pony refrigerator box will be soon discovered in any farming community where a low-priced local market exists, and where the fruit man desires a discriminating trade.

The stage of maturity at which berries should be packed should be gauged by the distance to be shipped. If grown for distant markets the fruit should be fully grown and about three-fourths ripe. When picked before they are colored the berries are sure to shrink and wither, making them unmarketable. Strawberries, for example, should be picked with a short piece of stem attached, about one-fourth to one-half an inch long, and should never be slipped from the stem for distant market uses, as this injures their keeping qualities and market appearance.

It would be folly to ship anything but the highest graded and class fruit to distant markets. Transportation charges do not permit the grower gambling with his possible price. The grading should take place in the field, the pickers carrying several boxes in each tray and grading the fruit according to size. Only experienced pickers should do this work.

Put the fruit in the shade as soon as it has been picked, for heat injures the fruit for keeping. The shorter the time that elapses after the fruit has been picked before it is placed in the refrigerator box the better for the fruit, which will finish ripening until chilled.

New York. **EARL W. GAGE.**



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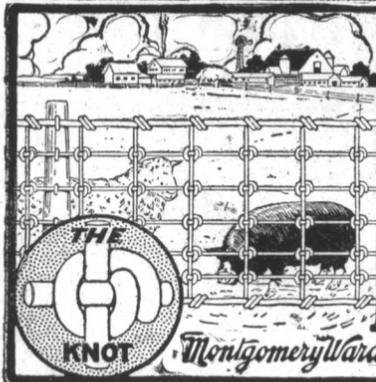
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How "Co-op" Associations Grow

THE co-operative shipping associations in this section, are spelling success. Farmers, more particularly those who are members of an association, are enthusiastic to a high degree, over the new method of disposing of farm products. The following facts, while in a way disconnected, bear in general, on the movement and its success, and go to show how far the new idea has taken possession of the average farmer.

In the shipment of live stock, members of these co-operative associations are practically unanimous in their praise of the new system. They not only present figures showing increased profits to themselves as a result of shipping with the association, but they point to the fact that the few stock buyers still in business, are compelled to pay better prices than formerly in order to buy stock at all. In this way, the co-operative movement has benefited farmers outside the associations, and kept some of the more skeptical from joining the movement. These men are profiting by better prices forced from the stock buyer by the associations, and are either too selfish or too short-sighted to see the real cause of the better conditions.

other, these co-operative shipping associations have grown much more rapidly in some localities than in others. Everywhere, however, they have sprung up and prospered to a greater or less degree. An instance of one of the most thriving and successful associations may be found at Quincy. This association, formed about 18 months ago, now has a membership of 370. It owns its shipping facilities and warehouse, and has \$700 in the treasury. Its members are interested and enthusiastic, and the association furnishes a splendid example of what may be done by a body of farmers, if they are willing to put aside petty selfishness and minor differences. Around Quincy, no stock-buyer can operate successfully. The farmers have everything their own way in the shipment of live stock, and feel that they are getting somewhere near the price they ought to receive.

An element in the workings of these co-operative associations, not at first very prominent, may be seen in the following advertisement taken from a local paper. The "ad" was written by the manager of the Hillsdale County Co-operative Associations, and we quote a part of it, verbatim, for the information it contains:

Farmer Agents wanted. Get our samples and prices. Theo. Burt & Sons, Melrose, Ohio.

For local reasons of one kind or another, these co-operative shipping associations have grown much more rapidly in some localities than in others.

When writing to advertiser please mention The Michigan Farmer.

Binder Twine

sociation, what is it? An organization by the people, for the people. You will be welcome at our office, corner of Oak and Railroad Street, not only dollar day but every day. What have we for sale? Coal—the best there is. Feeds, fertilizers, fencing, posts, nails, staples, salt, spraying materials, machine oil, axle grease, etc. List your stock to go in next car. Sent out three carloads last week.”

By the above question, it will be seen that the tendency is for these shipping associations to handle many of the bulkier commodities in common use and necessary on the farm. It is because of this phase of the movement, that local merchants have fought the co-operative idea. In spite of the tendency to buy as well as sell, however, it is not true that the co-operative movement is killing the home-town. For centuries, the farmer has been compelled to sell for the price offered and buy at the price charged. The new movement is making him a little more independent, that is all. It is not killing any legitimate business. It is simply bringing the greatest good to the greatest number. Any movement which brings this result, is an all-right movement. Too long in America, have the few profited from the toil and thrift of the many. Co-operation is modifying this unjust condition, in small measure at least, so far as the farmers are concerned.

Members Are Enthusiastic.

In talking with members and officers of shipping associations, the writer has inevitably heard expressions like the following: “Co-operation is the best thing that has ever come to the farmer.” “The co-operative associations are great; I only wish we were in a position to ship our grain and all farm products.” “The stock-buyers do not work for nothing; they were in it for what they could get, and many of them got more than a plenty; we are now putting in our own pockets the money we paid for years, to this middleman.”

From these expressions, it will be seen that the farmers of the associations are thoroughly aroused, and are alive to the situation. Never again can conditions revert to the old days. It is too much to expect that everything will always move smoothly in all instances. Co-operative associations have their ill wishers, even among the farmers. Few, if any, local merchants can find a pleasant word for the movement. However, the fact remains that the movement is here. It is a living, vital, persistent force. It must be reckoned with, from now on. Just as the labor union protects the laborer and keeps him from serfdom, so co-operation protects the farmer and gives him the fruits of his toil and enterprise. The local business man who is wise, will fall in line, accept the inevitable, and make his business secure by giving always, a square deal. The home town will not disappear. If it has unscrupulous dealers, however, they will have a care, when they realize that from 100 to 400 farmers stand ready to embark in an enterprise like their own, unless they deal honestly and on the square.

Hillsdale Co. J. A. KAISER.

MILK INSPECTION PROBLEM.

(Continued from page 559).

is, that that same milk with the sediment removed, while not so unsightly is fully as undesirable.

Bacteriological Tests Get Results.

We repeat, then, that the most important check on the sanitary condition of the milk which is sold at retail in the city is a bacteria count of the milk, taken as it enters the city and not as it leaves the farm, and not the inspection of the farm itself. We say most important because it is the one indicator which the analyst has at his disposal which in a word tells him the condition of that milk as far as its wholesomeness is concerned. How much more important, therefore, it would be to supplement the dairy farm inspection by a more effective laboratory inspection of the product which

is sold. We wish to make it decidedly plain that we do not antagonize dairy farm inspection in any way or minimize its importance. It should be carried on, but aside from the mere matter of the elimination of contagious or infectious diseases, it should not be this dairy farm inspection which determines whether or not a milk should have access to the city. We are holding up sane dairy farm inspection; we are advocating, and strenuously advocating, intimate laboratory acquaintance with the milk itself.

Not Less Inspection, but More Laboratory Needed.

There is seemingly no end to the information which can be gained about milk by a careful laboratory examination. The most up-to-date dairy farm in the country is unable to produce satisfactory milk unless there is religiously carried out the ideas which go with and supplement a well constructed dairy. It is impossible to see with the naked eye, on the dairy farm, teriological analysis reveal in the laboratory, and we deplore the fact that the tendency on the part of inspection officials has been to desert the laboratory and spend the time in the field. Field work is necessary and very, very much has been accomplished by efficient field inspection, but epidemics of disease have followed in spite of it, and very grave error has occurred by not holding up the laboratory end of the service which is the most efficient weapon we have to detect the inferior product.

A corps of inspectors and a corps of assistants should be busy all the time in a study in the laboratory of milk as it comes into the city. If this were done and it were checked back from time to time upon the conditions as found by the inspectors on the farm we do not see how it would be probable that an inferior grade of milk should reach the consumer.

NATIONAL CROP REPORT.

The Crop Reporting Board of the U. S. Department of Agriculture, makes the following estimates from reports of its correspondents and agents:

The average condition of winter wheat on April 1 was 78.3 per cent of a normal, against 88.8 on April 1, 1915, 95.6 on April 1, 1914, and 87.3 the average condition for the past ten years on April 1. There was a decrease in condition from December 1, 1915, to April 1, 1916, of 9.4 points, as compared with an average decline in the past ten years of 3.5 points between these dates. Upon the assumption of average abandonment of acreage and average influences on the crop to harvest, condition April 1 forecasts a production of about 495,000,000 bushels, which compares with 655,045,000 bushels the estimated production in 1915, and 684,990,000 in 1914.

The average condition of rye on April 1 was 87.8 per cent of a normal, against 89.5 on April 1, 1915, 91.3 on April 1, 1914 and 89.9, the average condition for the past ten years on April 1.

Crop and Market Notes.

Michigan.

Branch Co., April 15.—Ground drying out and roads good. Farmers are sowing oats, but many more have yet to sow. Wheat, rye and meadows below the average for the time of year. Fruit trees in fair condition. Some farmers are a little short of feed, and hay is in good demand at \$9@14; oats 40c; potatoes 60c; corn 65c; eggs 18c; butter 25c; butter-fat 36c.

Eaton Co., April 14.—The prospects for wheat are improving. Meadows in good condition. Not as large a harvest of maple products this spring as in some years. Spring work is opening up rather slowly. About enough feed in farmers' hands for own use. All live stock wintered over in fine shape. Wheat \$1.12; beans \$3.40; potatoes 0c; butter-fat 36c; cattle \$5@7.50; hogs, live \$9.50; lambs \$4@9; veal \$13.

Oceana Co., April 10.—Farmers have begun to plow. Some tile is being put in. Fruit growers are pruning and spraying. Live stock looks very well. Feed is getting scarce and farmers are dividing up. The grass is starting nicely. Eggs plentiful at 17c; butter 25c; butter-fat 37c; seed oats 50@60c; beans \$3.30; potatoes 80c; cattle \$6; sheep \$6; hogs \$8.



Cave Life or Civilization

Civilized man is distinguished from the cave man by his habit of co-operation.

The cave man lived for and by himself; independent of others, but always in danger from natural laws.

To the extent that we assist one another, dividing up the tasks, we increase our capacity for production, and attain the advantages of civilization.

We may sometimes disregard our dependence on others. But suppose the farmer, for example, undertook to live strictly by his own efforts. He might eke out an existence, but it would not be a civilized existence nor would it satisfy him.

He needs better food and clothes and shelter and implements than he could provide unassisted. He requires a market for his surplus products, and the means of transportation and exchange.

He should not forget who makes his clothes, his shoes, his tools, his vehicles and his tableware, or who mines his metals, or who provides his pepper and salt, his books and papers, or who furnishes the ready means of transportation and exchange whereby his myriad wants are supplied.

Neither should he forget that the more he assists others the more they can assist him.

Take the telephone specialists of the Bell System: the more efficient they are, the more effectively the farmer and every other human factor of civilization can provide for their own needs and comforts.

Or take our government, entrusted with the task of regulating, controlling and protecting a hundred million people. It is to the advantage of everyone that the government shall be so efficient in its special task that all of us may perform our duties under the most favorable conditions. Interdependence means civilized existence.

AMERICAN TELEPHONE AND TELEGRAPH COMPANY AND ASSOCIATED COMPANIES
One Policy One System Universal Service

3000 Extra Miles Out of Your Old Tires

Were you going to buy new ones this spring? Then wait until you have investigated Maxotires. There are several thousand miles more in your old tires without blowouts, without punctures, without trouble. Find out about



They cut your tire costs in two. They make more miles and more smiles. Made to fit any size tire. Write today for facts, and proof that Maxotires do all and more than we claim. We will send them subject to your approval. Don't buy new tires—just write and get the free facts about Maxotires now.

Maxotires were exhibited at The Ohio State Fair, Grand Rapids & Columbus Auto Shows.
K. & W. Rubber Co., Third St., Ashland, Ohio

UNIVERSAL New GUARANTEED
High class 4-cylinder, water cooled engines. 35 H. P. Cylinders cast in bloc. 4-1-8 by 5. Suitable for tractors, pumping, drilling, grinding, electric lighting. Closing out job lot \$95.00 complete. Greatest bargain ever offered.
Schmitz Bros., Cor. Station & Collins, East End, PITTSBURG, PA.

SEED BEANS Extra quality pea beans, uniform in size and free from disease. Price \$4.50 per bu., F.O.B. Detroit. These beans were raised by Henry Ford Farms, Dearborn, Mich. and are the prettiest beans you ever saw. Order today. J. POST BROTHERS, 983 Junction Ave., Detroit, Mich.

AMERICAN VITRIFIED TILE IS BEST

It will stand the test of time. It is salt glazed and is frost proof, acid proof and will last as long as the earth in which it is laid. It is best for both public and private drains. You should buy it for the one and use your influence to see that it is used in the other. Write for carload lots if your dealer can't supply you.

American Sewer Pipe Co.,
200 St. James St., JACKSON, MICH.

Will You Take Orders?

Your spare time is worth \$10 a day demonstrating the 1917 Model, Steel, 18-in-1 Automatic Hand-Tool. Equals separate tools costing \$160. Lifting and pulling jack; fence building tool; stump and post puller; baler; press; hoist; vice, etc. No experience needed. Demonstrator free. Credit given. Exclusive territory. Write for special factory agency offer.

Chas. E. Benefield Co. 205-D Industrial Bldg., Indianapolis, Ind.

Agricultural Lime

Northern Hydrated Lime and Pulverized Limestone, also pulverized burned lime, all made from high calcium limestone. Guaranteed to be the best on the market. Your inquiries solicited. Samples furnished on request.

Northern Lime Co., Petoskey, Mich.

LIME Pulverized lime rock for "sour" soils. Write for LOW PRICES DIRECT TO YOU and we will send sample and full particulars. Write to office nearest you.

LAKE SHORE STONE COMPANY,
Muskegon, Mich., and Benton Harbor, Mich.

LIME—You should get the highest grade of limestone manufactured. Buy it upon the basis of analysis. We manufacture the highest grade pulverized limestone sold in Michigan.

Let us prove it. Ask for sample and analysis.

CAMPBELL STONE CO., Indian River, Mich

FERTILIZER

Muncey Cartage Co., shippers of horse manure and tobacco stems. 450 Grand River Avenue, Detroit Mich. Tel. Grand 821 and 4267.

Markets.

GRAINS AND SEEDS.

April 18, 1916.

Wheat.—Notwithstanding the growing appreciation of the large amount of damage done to the winter wheat crop in the United States, and a government crop report which shows a prospective yield between 150 and 200 million bushels short of the two preceding crops, values this last week have declined several cents. The reason generally ascribed was political and not economic. Foreign relations were so disturbing that dealers in this and other grains were cautious about buying. Then, too, the large amount of stocks of last year's crop is sufficient to satisfy all immediate needs. One year ago No. 2 red wheat was quoted at \$1.66 per bushel. Detroit quotations last week were:

	No. 2	No. 1	May
	Red.	White.	
Wednesday	1.24	1.19	1.25
Thursday	1.21½	1.16½	1.22½
Friday	1.21	1.16	1.21¾
Saturday	1.20	1.15	1.20¾
Monday	1.19	1.14	1.19½
Tuesday	1.19	1.14	1.19½

Chicago.—May wheat \$1.14½; July \$1.14½; Sept., \$1.12.

Corn.—Prices remain steady despite the weakness in wheat. Offerings are light and cash houses are buying fairly liberally. Advices from South America show an unfavorable harvest and much re-planting has been necessary in Oklahoma and other southern states. The visible supply decreased 1,121,000 bu. A year ago No. 3 corn was quoted at 78½c. Last week's Detroit prices were:

	No. 3	No. 3	Yellow
	Mixed.		
Wednesday	75	77½	77½
Thursday	74½	77	77
Friday	75	77½	77½
Saturday	75	77½	77½
Monday	75	77½	77½
Tuesday	75½	78	78

Chicago.—May corn 76½c; July 77c; Sept., 76½c.

Oats.—Trade is steady under normal conditions. Some export buying has been reported. Standard oats were quoted a year ago at 61c per bushel. Last week's Detroit quotations were:

	Standard.	No. 3	White.
Wednesday	48½	47½	47½
Thursday	48½	47½	47½
Friday	48½	47½	47½
Saturday	48½	47½	47½
Monday	48½	47½	47½
Tuesday	47¾	46¾	46¾

Chicago.—May oats 45¼c; July 43¼c; Sept., 39¾c.

Rye.—One cent higher at 94¼c per bushel for cash No. 2.

Barley.—At Milwaukee the malting grades at 71@77c; at Chicago 63@76c.

Beans.—In good demand with stocks very low. Cash \$3.65; April \$3.70; May \$3.75.

Clover Seed.—Prime red clover \$10; prime alsike \$9.35.

Timothy Seed.—Steady at \$3.60.

FLOUR AND FEEDS.

Flour.—Jobbing lots in one-eighth paper sacks are selling on the Detroit market per 196 lbs., as follows: Best patent \$6.50; seconds \$6.20; straight \$5.90; spring patent \$6.80; rye flour \$6.

Feed.—In 100-lb. sacks, jobbing lots are: Bran \$24; standard middlings \$25; fine middlings \$30; cracked corn \$31.50; corn and oat chop \$28 per ton.

Hay.—No. 1 timothy \$19.50@20; standard timothy \$18.50@19; light mixed \$18.50@19; No. 2 timothy \$16@17; No. 1 mixed \$15@15.50; No. 1 clover \$12@13.

Chicago.—Firm. Choice timothy \$19@20; No. 1 do \$17.50@18.50; No. 2 \$15@16.

Straw.—Wheat and oat straw \$6.50@7; rye \$7.50@8 per ton.

DAIRY AND POULTRY PRODUCTS.

Butter.—Market continues firm at unchanged prices. Extra creamery 36c; firsts 34c; dairy 25c; packing stock 22c.

Elgin.—Market is easy at a decline of 2c from last week's prices. Price, for the week, based on the sales 34c.

Chicago.—The market is unsettled and prices are lower. Extra creamery 34c; extra firsts 33½c; firsts 31@33c.

Eggs.—In demand at prices ½c lower than last week. Current receipts are quoted at 20½c; firsts 21c.

Chicago.—The feeling continues firm but prices are slightly lower. Firsts 20¼@20¾c; ordinary firsts 19½@20c; miscellaneous lots, cases included 18@20½c.

Poultry.—The demand is very good and both springs and fowls are higher. Fowls, 17@22c, according to quality;

spring chickens 20@21c; ducks 20@21c; geese 17c; turkeys 24@25c.

FRUITS AND VEGETABLES.

Apples.—Apples are easy and active. Prices are unchanged. Greenings \$3@3.75; Spy \$3.50@4; Baldwins \$3@3.50; Steele Red \$4@4.50. At Chicago the market is active and all firm stock is readily taken. Spys are slightly higher. No. 1 Greenings are quoted at \$2.50@3.50 per bbl; Jonathans No. 1 \$3.50@4; Baldwins \$3@3.25; Spys \$3.50@4.50.

Potatoes.—Potatoes are easy and in plentiful supply. Prices are lower. Carlots on track, white 95@97c; red 93@95c per bushel. At Chicago the feeling is weaker and prices are slightly lower. No Michigan stock quoted; other kinds sell from 80@97c. At Greenville potatoes at selling at 75c, with very few coming to market.

WOOL.

Market develops new strength with restriction in supplies and broadening of the demand. Wool growers are asking still higher prices which buyers in many cases are paying. Fine wools are scarce and farmers in the fleece states ought to secure high values for the clip. At Boston Michigan unwashed delaines are quoted at 31@32c; do combing 32@37c; do clothing 26@31c.

GRAND RAPIDS.

The egg market opens firm this week with prices at 19½@20c. Creamery butter is a cent and a half lower, and dairy butter is quoted at 25c. The potato situation does not show much change, with prices at loading stations around 75@80c. Beans are a trifle higher, with white pea quoted at \$3.20; red kidneys at \$4.20. Grain prices are: No. 2 red wheat \$1.13; No. 1 white \$1.08; rye 75c; oats 45c; corn 75c; buckwheat 70. In meats, dressed hogs range from 10½@11½c; live fowls 15@17c; dressed calves 12@13c.

DETROIT EASTERN MARKET.

Market active for this season. Apples 60c@1.25 for bulk, with a few Steele Reds higher. Potatoes \$1@1.15; cabbage 55@65c; parsnips 55@65c; onions 80c@1; eggs 25c; rhubarb 20@30c per bunch; pork \$12@12.25 per cwt; loose hay moves slowly at \$18@22 per ton.

LIVE STOCK MARKETS.

Buffalo.

April 17, 1916.
(Special Report of Dunning & Stevens, New York Central Stock Yards, Buffalo, N. Y.)

Receipts here today Cattle 145 cars; hogs 80 d. d.; sheep and lambs 50 d. d.; calves 2,500 head.

With 145 cars of cattle today, there were around 25 cars of shipping cattle and the good choice ones sold freely from steady to 10c lower, but the pretty good kind that were a little plain and coarse sold very slow and 15@25c lower. Bulk of the butcher cattle sold 10c lower. Receipts of cows were light, but bulk of them had to go at 10@15c lower prices. We look for a fair run of cattle next week and no more than a steady market.

Our receipts of hogs today were fully up to expectations, about 80 d. d., and while the market was active, the prices were generally 10@15c lower on all but pigs; this class ruled generally steady. A few loads of selected hogs sold at \$10.40 and one or two loads at \$10.45, with the bulk around \$10.35; pigs generally \$9.50; roughs \$9.25@9.40; stags \$6@7.50. Everything sold at the close and late trade was active, with prospects fairly good for the next few days.

Market was active on choice sheep and lambs, but slow on heavy and coarse, with prices steady with the close of last week. About all sold and we look for steady to possibly a shade lower prices the last of the week.

We quote: Clipped lambs \$10.25@10.50; wool lambs \$11.75@12; cull to fair \$8@11.60; yearlings \$8.50@10.75; bucks \$4.50@7.75; handy ewes \$8.50@9; heavy ewes \$8.50@8.75; wethers \$9@9.50; cull sheep \$4.50@7; veals, good to choice \$11.25@11.50; common to fair \$8@11; heavy \$6@9.

Chicago.

April 17, 1916.
Cattle. Hogs. Sheep.
Receipts today..18,000 49,000 19,000
Same day 1915..17,608 22,839 13,017
Last week.....42,650 135,799 63,523
Same wk 1915..40,385 103,263 58,364

Hogs marketed last week averaged 218 lbs. Prices for hogs today were steady at \$9.45@10. Butchering cattle and fat steers sold today at steady prices, but the prospects were that other steers would be weak to 10c lower. Sheep opened at steady prices, but

lambs promised to sell 10c or more lower.

Cattle were 10@15c lower on Monday of last week. A rally occurred on Wednesday, but the market was bearish again the following day. Compared with former years, cattle have been ruling unusually high. Bulk of steers \$8.75@9.75; choicest steers of good to heavy weight \$9.50@10; good steers \$9.10@9.45; medium to good \$8.80@9; inferior to fair light weight steers \$7.65@8.75. There has been an improved demand for yearling steers. Good to prime offerings bring \$9@9.90, and commoner kinds \$8.25@8.75. Butchering cattle are active; cows \$5.50@8.80; heifers \$5.50@9.15; cutters \$4.40@5.45; canners \$3.50@4.35; bulls at \$5.25@8. Calves were in demand at \$5@10.50, with receipts large. There was a lively demand from country buyers for desirable stockers and feeders, and prices rule still higher. Stockers were salable at \$6.25@8.40 and feeders at \$7@8.70.

Hogs declined early last week but advanced later on restricted offerings. Conditions are such that stockmen are warranted in making their hogs and cattle good and fat before marketing. The late market became strong, and in spite of the week's greatly increased receipts, hogs sold on Saturday at \$9.40@10, comparing with \$9.25@9.85 a week earlier, while pigs brought \$7.25@9.30.

Lambs, yearlings and sheep made further advances last week, reaching new high records. But heavy prime lambs were discriminated against by killers and sold at a discount. Buyers wanted lambs of medium weight which sold at a liberal premium. Prime Colorado lambs sold up to \$12, and prime wethers brought \$9.40, prices closing the week as follows: Lambs \$9.25@11.90; heavy lambs \$10@10.75; feeding lambs \$10.25@11.25; yearlings \$9@10.90; wethers \$8.25@9.40; ewes \$6@9; bucks \$6.50@8. Shorn lambs brought \$7@10.

Horse market was active and unchanged, with especially good sales of army horses. Southern chunks sold at \$60@100, farm workers at \$70@130, good farm mares at \$135@150, commercial chunks at \$165@240 and heavy horses at \$245@315.

LIVE STOCK NEWS.

Lowered recent prices for all descriptions of live stock offered on the Chicago market were resented by the stockmen of feeding districts to such an extent that on a recent Monday the receipts were cut down to 9,637 cattle, 19,938 hogs and 18,883 sheep and lambs. Of these offerings shippers purchased 2,245 cattle, 5,344 hogs and 6,494 sheep and lambs, leaving meager supplies for local packers and smaller butchers. Most of the time the eastern shippers are extremely important factors in the Chicago live stock market, and this is particularly the case when the receipts are so meager in volume. At the present time the east is largely dependent upon the Chicago market for cattle supplies, most of the eastern holdings having been slaughtered, aside from the usual supplies of barn cattle held in Pennsylvania. All through the long winter period fat heavy steers have been much the best sellers in the Chicago market, but on the appearance of warm weather it is safe to look for a revival in popularity of the fat little yearlings, both steers and heifers. As these are expected to sell the highest of all kinds of cattle, owners of heavy beefs would do well not to delay marketing them much longer. Word comes from the southwest that because of the drouth and dearth of cottonseed products, Texas has decidedly fewer cattle for sale than in normal years.

Hogs promise to sell extremely high ultimately, and sharp breaks in prices are followed by decided recoveries.

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Runs easiest—on least power. Cuts clean and fast. Traveling force feed table—handles big bundles easily. Has extra strong frame, large feed rolls, adjustable knives, safety fly wheel, safety stop lever.

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The Diabolo, at this World beating price, \$17.00 and up, is sold by Diabolo dealers everywhere—direct factory representatives. There's one near you. He'll arrange terms to suit. Get acquainted. A post card brings his name and particulars of new

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A digestive tonic and conditioner, acting on the blood, bowels and kidneys. A postal today brings our Farm Book presenting complete line of Stock and Poultry Tonics and Feeds. Full line of farm implements at money-saving prices.

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New York, Chicago, Kansas City, Fort Worth, Portland, Ore. Write house most convenient



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60 HEAD OF STALLIONS FOR SALE

PERCHERONS, CLYDESDALES and HACKNEYS

Also 20 head of Choice Hackney mares with foal.

Gentlemen I got on my selling clothes.

Write for prices.

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Colby Ranch, Stanton, Mich.

WANTED—AN IDEA. Who can think of simple your ideas, they may bring you wealth. Write for "Needed Inventions" and "How to get your Patent and Your Money." RANDOLPH & CO., PATENT ATTORNEYS, DEPT. 67, WASHINGTON, D. C.

THIS IS THE FIRST EDITION.

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

DETROIT LIVE STOCK MARKET.

Thursday's Market.
April 13, 1916.

Cattle.

Receipts 1831. The run in all departments was much smaller at the local yards than at the same period a week ago and the general market was much more active. Especially so in the cattle division where the demand was never better and the prices on all grades averaged about 15¢ higher than at the same period a week ago. The quality was good. Good milch cows were very scarce and the common grades are still dull and not wanted. Few were buying stockers for returning to the country on account of the price being so high for butchering purposes. The close was strong as follows: Best heavy steers \$8.50@8.75; best handy weight butcher steers \$7.75@8.50; mixed steers and heifers \$7.25@8; handy light butchers \$6.50@7.50; light butchers \$6@7; best cows \$6.50@7; butcher cows \$5@6.25; common cows \$4.25@5; canners \$3.50@4.25; best heavy bulls \$6.25@7; bologna bulls \$5.50@6; stock bulls \$5@5.50; feeders \$6.75@7.75; stockers \$5.50@7.25; milkers and springers \$4@7.5.

Reason & S. sold Bray 5 cows av 1072 at \$6, 1 do wgh 1220 at \$7, 1 do wgh 1100 at \$7, 1 steer wgh 1045 at \$7.50; to Thompson Bros. 11 butchers av 993 at \$7.25, 1 steer wgh 918 at \$8.25; to Breitenbeck 1 do wgh 750 at \$7.50, 3 cows av 1015 at \$5.75; to Sullivan P. Co. 12 steers av 1153 at \$8; to Fineman 2 bulls av 950 at \$6; to Bliss 2 do av 925 at \$5.65, 1 do wgh 800 at \$5.40, 2 do av 900 at \$5.35; to Thompson Bros. 16 steers av 852 at \$7.40, 1 do wgh 770 at \$6.

Bishop, B. & H. sold Thompson Bros. 6 steers av 895 at \$7.60; to Hely 7 cows av 774 at \$5.25; to Mich. B. Co. 12 do av 1008 at \$5.75, 5 bulls av 1392 at \$6.35, 1 do wgh 1370 at \$6.25, 3 heifers av 773 at \$6.75, 3 cows and bulls av 1060 at \$6.35, 1 steer wgh 610 at \$6.50, 5 do av 1060 at \$8, 13 cows av 1004 at \$5.60; to Hammond, S. & Co. 4 do av 942 at \$4.10; to Bresnahan 7 heifers av 516 at \$5.50; to Newton B. Co. 22 steers av 1083 at \$8.50, 1 cow wgh 1020 at \$4.50; to Thompson Bros. 7 steers av 750 at \$7, 2 do av 720 at \$6, 4 butchers av 1150 at \$6.50; to Graves 4 bulls av 1400 at \$6.50; to Bresnahan 1 steer wgh 960 at \$6.25, 1 do wgh 870 at \$7.75, 8 cows av 1070 at \$6.25; to Thompson Bros. 18 steers av 1040 at \$8.75, 6 do av 1090 at \$7.75, 6 do av 1070 at \$6, 3 do av 850 at \$7.65; to Graves 1 bull wgh 1350 at \$7; to Bresnahan 1 cow wgh 1080 at \$4.25, 1 steer wgh 1070 at \$7.50, 3 cows av 1050 at \$5.75, 4 do av 1000 at \$6.25; to Hammond, S. & Co. 3 do av 950 at \$4; to Sullivan P. Co. 2 steers av 1150 at \$8, 6 cows av 1000 at \$5.90; to Graves 1 bull wgh 1350 at \$7, 4 do av 1250 at \$6.40; to Thompson Bros. 7 steers av 775 at \$7, 2 do av 870 at \$6; to Sullivan P. Co. 10 do av 902 at \$7.40, 6 cows av 950 at \$5.50, 5 steers av 1175 at \$8.50; to Hammond, S. & Co. 8 cows av 975 at \$5.35.

Veal Calves.

Receipts 1263. There was but little change in the veal calf department; a few choice brought \$10.50 but the bulk was at \$10 for good and \$5@9 for medium and common weights.

Roe Com. Co. sold Nagle P. Co. 2 av 125 at \$6, 3 av 165 at \$10.25, 2 av 130 at \$10, 3 av 110 at \$6, 16 av 120 at \$9; to Rattkowsky 4 av 140 at \$10.50, 1 wgh 140 at \$7.

Reason & S. sold Sullivan P. Co. 3 av 150 at \$10, 20 av 140 at \$10, 3 av 150 at \$8, 21 av 140 at \$10.

Sheep and Lambs.

Receipts 1509. The sheep and lamb supply was very small and prices averaged 25¢ higher than they were a week ago, selling as follows: Best lambs \$11.50@11.65; fair lambs \$11.25@11.40; light to common lambs \$9.50@10; clip lambs \$9.25@9.50; fair to good sheep \$8@8.50; culls and common \$6.50@7.

Bishop, B. & H. sold Thompson Bros. 16 lambs av 95 at \$11.50; to Nagle P. Co. 3 spring lambs av 45 at \$16; to Mich. B. Co. 175 wool lambs av 90 at \$11.65, 13 do av 80 at \$11.65, 3 do av 80 at \$10, 74 do av 83 at \$11.65, 36 do av 65 at \$10.50, 21 clip lambs av 80 at \$10, 6 sheep av 75 at \$6; to Sullivan P. Co. 65 wool lambs av 95 at \$11.65, 5 do av 75 at \$10.50, 4 clip lambs av 90 at \$10, 7 sheep av 125 at \$7; to Nagle P. Co. 73 clip lambs av 55 at \$9, 38 do av 60 at \$9, 49 do av 60 at \$8, 202 wool lambs av 65 at \$11.25.

Hogs.

Receipts 11,178. In the hog department the trade was about 5¢ higher than on Wednesday. Pigs \$8.25@8.65; yorkers and mixed \$9.50@9.65.

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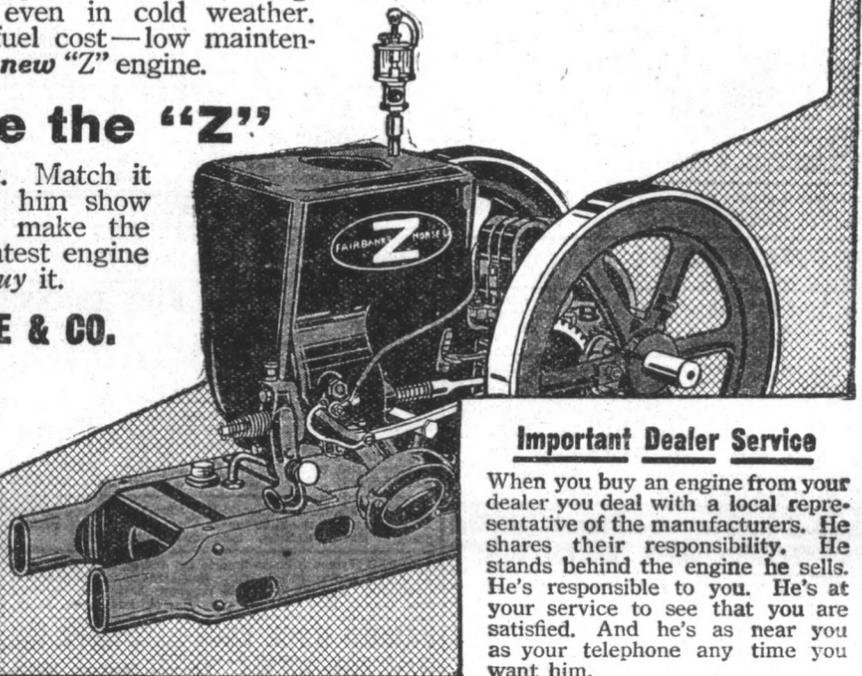
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NEWTON'S Heaves, Cough, Distemper and Indigestion Cure.

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CURES HEAVES BY CORRECTING CAUSE—INDIGESTION. IT'S A GRAND CONDITIONER AND WORM EXPELLER

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100 Acres, Stock and Tools Only \$500. Required

Owner a city man; if taken immediately throws in pair of horses, 8 head stock and farming tools. Only 2 miles to town; cottage house, new barn for 18 head; \$1,600 takes all, with \$500, down and easy terms. For traveling instructions see page 17, our new spring catalogue, describing three hundred bargains in a dozen states, just out, copy free.
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176 1/2 Acres, about all under cultivation, 40 acres plowed, about 4000 fruit trees mostly all bearing, this farm lies just outside City limits with a half mile frontage on Cheboygan River and stone road on other side. Good 10 room house and barn. Will sell with or without implements. I will sell this property at a bargain if taken at once. For particulars enquire or write:
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In Gladwin and Midland Counties, Michigan. Well located. Low prices and easy terms. Staffeld Bros. (owners), 15 Merrill Bldg., Saginaw, (west side), Mich.

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18,000 FARM Families settled in Montana last year. Our low priced lands produce more than the 2000 Middle-West farms. Government reports prove this. Handsome illustrated booklet, (including map) on request.
GANON BROTHERS, Inc., Helena, Montana.

FOR SALE:—140 acres 3 miles from good town main road; good 12-room house, 3 barns. Water house and barn. A-1 soil, land level, orchard bearing, stock and tools if wanted. \$70 per acre. Sell on contract. Perrin W. Callen, South Lyon, Michigan.

40 Acres good clay loam, well situated, new 7-room house, small barn, near store, school and church. 6 miles to R. F. Harvey Wilson, R. 2, Clare, Mich.

40 Acre Fruit Farm near Benton Harbor, Mich. L. HOSMER, Coloma, Mich. R. 3

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Commission Merchants
Poultry, Live or Dressed, Dressed Hogs, Calves, Sheep and Eggs. Reference, Peninsular Savings Bank, Sullivan Packing Co. Shipments Solicited. Satisfaction Guaranteed.

HAY Ship your good quality to us. Highest Market Prices. E. L. Richmond Co., Detroit.

THE HARPSTER COMMISSION CO. Union Stock Yards, Toledo, O. Sell live stock on commission, get highest prices and best fills. Try them. Daily market, force of six looks after your interest. Financially backed by over \$1,000,000.

FARMERS—We will pay premiums whenever possible above the highest official Detroit Market quotation for your eggs shipped direct to us by express. Write us for information. It will pay you. American Butter & Cheese Co., Detroit, Mich.

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

HERE'S a work shoe that gives lasting wear under the severest conditions. Uppers are of Resisto Veal, the special leather that resists the alkali of the soil and ammonia of the barn yard.

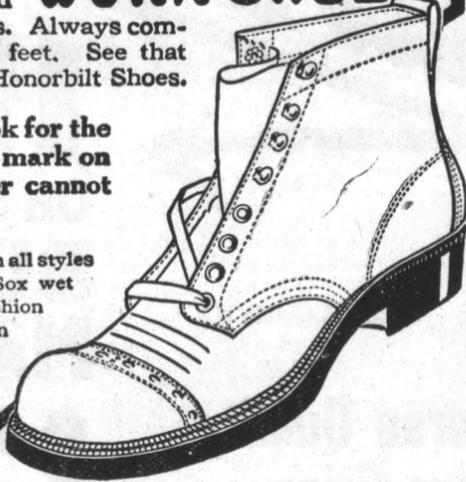
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We make Mayer Honorbilt Shoes in all styles for men, women, children; Dry-Sox wet weather shoes; Honorbilt Cushion Shoes, Martha Washington Comfort Shoes.

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HONORBIT

CHICKS 7c and up. Barred Rock, Wyandottes, Leghorns, Minorcas, etc. Safe delivery guaranteed. Circular free. Reliable Hatchery, McAlisterville, Box 6 Pa.

Eggs and Baby Chicks from pure bred R. and S. O. R. Reds, Two white guinea hens \$1.50 each. O. E. HAWLEY, Ludington, Mich.

Fowler's Buff Rocks a few choice Cockerels from prize winning stock, 7 to 9 lbs. according to age \$2 to \$5. Eggs \$1.50 for 15. R. B. FOWLER, Hartford, Michigan.

Hatching Eggs Buff, Barred, Columbian, Partridge, Silver and White Rocks Pekin and Rouen Ducks, Sheridan Poultry Yards, Sheridan, Mich. Chicks Ducklings

Eggs for hatching—From pure bred White Plymouth Rocks, Pekin and White runner ducks, White African guineas. H. V. Hostetler, R. 1, St. Johns, Mich.

IMPROVE your poultry. My Young's strain S. C. White Leghorns great money makers. Strong, vigorous, free-range stock. Baby chicks \$8 per 100 and up. Satisfaction guaranteed. Free catalogue. W. Van Appledorn, Holland, Mich.

LEGHORNS—White, Brown, Buff, Black. Also Rocks, Reds, Anconas, Pekin Ducks, eggs, baby chicks. Prices reasonable. Circular free. Sunnybrook Poultry Farms, Hillsdale, Mich. Chas. G. Burroughs, Mgr. Formerly Foreman University of Wis., Foultry Dept.

LILLIE Farmstead Poultry, B. P. Rocks; R. I. Reds; L. W. Leghorns. 15 eggs \$1; 26 eggs \$1.50; 50 eggs \$2.50. P. P. delivery free. Colon C. Lillie, Coopersville, Mich.

NO frosted combs with R. C. Brown Leghorns, Kulp strain. Winter layers. Select eggs 15, \$1; 50, \$2.50. MAPLEWOOD FARM, Navarre, Ohio

ORPINGTONS—White, Single-Comb Kellestrass. Eggs, Chix. Special prices. M. E. THOMPSON, Redford, Mich.

Pine Crest White Orpingtons A few pullets and hens, males all sold, eggs and baby chicks. MRS. WILLIS HOUGH, Pine Crest Farm, Royal Oak, Mich.

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R. I. Reds, Both Combs, Most Popular strain in Michigan for hatching. Baby Chicks. Write for catalog. INTERLAKES FARM, Box 39, Lawrence, Michigan.

Rose Comb Brown Leghorn & Mammoth Pekin Duck Eggs \$1 per setting, \$5 per 100. W. China Geese 25 cents each. CLAUDIA BETTS, Hillsdale, Mich.

ROSE AND SINGLE COMB Rhode Island Reds Eggs, per 15, \$1.50 by parcel post; from special pens, 20c each by express. Jennie Buell, Ann Arbor, Mich.

RHODE ISLAND WHITES win at the National Egg Laying contest. Cold weather don't stop them. Eggs \$1.50, 2 settings, \$2.50. H. H. Jump, Jackson, Mich.

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BUFF LEGHORNS—Cockerels, hens, pens or eggs. B Anything you wish in Buff Leghorns. Great laying strains. Dr. William Smith, Petersburg, Mich.

RED Breeders Attention. Ten Years exclusive breeding Rose Comb reds. Special, dark cherry red mating \$2.00. Range stock, \$1.25 prepaid. Ridgman Red Farms, Vassar, Mich.

Ferris Leghorns—200 Egg Strain—Eggs, chicks, 8-week-old pullets from hens with records up to 264 eggs. Prize winners at largest shows. Prompt shipment, prices low, quality guaranteed. White Leghorns are best for eggs. We raise thousands. Free catalog and price list gives particulars. Write for it now. FERRIS LEGHORN FARM, 934 Union, Grand Rapids, Mich.

Heavy Winter Layers:—Long, large bodies. S. C. W. Leghorns, Wyckoff strain. Eggs, \$1.50 per 15; \$4 per 50; \$7 per 100. H. A. Magoon, R. 5, Ann Arbor, Mich.

S. C. B. Minorcas Cockerels and Pullets. Eggs, Pope S. strain. P. C. Bred Sows and fall pigs. Big type with quality. R. W. Mills, Salline, Mich.

S. C. White Leghorns, vigorous bred to lay stock. Chicks, \$5.00 hundred—7c for 13, a few day old chicks, safe delivery and fertility guaranteed. M. MALONEY, R. No. 1, Kalamazoo, Michigan.

Eggs for Hatching From pure bred Rose Comb Black Minorcas. Fine layers. \$1 per 15. E. D. Van Natter, Standish, R. 3, Mich.

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Tom Barron S. C. W. Leghorns. Large, vigorous stock. Eggs \$5.00 per 100, \$1.25 per 15, postpaid. No Chicks. Bruce W. Brown, Mayville, Mich.

SILVER, Golden and White Wyandottes. Eggs from 6 Iowa S and Lansing prize colonies, \$3 per 15, \$5 per 30. All farm flocks, \$1.50 per 15, \$2.50-30. C. W. Browning, Portland, Mich.

WHITE Wyandotte Eggs from heavy winter layers, \$2.00 per 15, \$3.75 per 30, \$8.00 per 100. Superb stock. Eggday Poultry Ranch, Marshall, Mich.

White Wyandotte Cocks & Cockerels. Eggs \$1.50, \$2.50, \$3.00 per 15. \$4 per 50, \$7 per 100. DAVID RAY, 202 Forest Ave., Ypsilanti, Michigan.

WHITE WYANDOTTES, Eggs \$1.50 per 15, \$2.50 per 30, \$7.00 per 100. From choicest stock. A. FRANKLIN SMITH, Ann Arbor, Michigan.

25 Times World's Champion 402,000 in Use. Get all facts, proofs, particulars—my low prices—money-back guaranty—also my \$1300.00 Gold Offers—all come with my big illustrated Free Book "Hatching Facts" in colors. Write me today. Jim Rohan, Pres. Belle City Incubator Co., Box 14, Racine, Wis.

Money in Eggs

Why Sell Eggs at 15c, when you can keep them and get 40c. or 50c.? Use Fleming's Egg Preserver. Will keep eggs 9 months equal to new laid eggs. Simple, convenient, certain. No liquid. No cold storage. Approved by State Poultry Department. Jars cover 100 doz. Sent postpaid \$1.00. For testimonials and particulars, address D. H. BETHAN, Blackfoot, Idaho.

THE PRACTICAL POULTRY JOURNAL—the Practical Poultry Paper for Practical Poultry Raisers; only paper devoted exclusively to the poultry interests of Illinois, Indiana, Michigan and Wisconsin. It's YOUR paper; you should read it. Bright, Snappy, Live, SPECIAL OFFER: 6 mos. Trial Subscription 15c. Send stamps. Big Four Poultry Journal, Desk 26, Chicago.

POULTRY.

BARRED PLYMOUTH ROCK EGGS from full blood stock, \$1.50 per 15. Have won at leading shows for years. J. A. BARNUM, Union City, Michigan.

YOU ARE LOOKING FOR BABY CHICKS. We give you good quality for your money in both chicks and hatching eggs from a standard-bred strain of winter-layers. Winners at Kalamazoo, Battle Creek and Jackson. S. C. R. I. Reds—Bred for business and for beauty. (Send for price list.) Babcock & Son, R. No. 4, Box 180, Battle Creek, Michigan.

Baby Chicks from our own Bred-to-Lay Ringlet Barred Rocks 200 S. C. White Leghorns \$10 per 100 and S. C. Buff Orpingtons \$12 per 100. Hatching Eggs carefully packed \$4 per 100. For further information write for our Chick Folder. RUSSELL POULTRY RANCH, PETERSBURG, MICH.

BARRED Rocks Parks 200 Egg Strain with records to 290 eggs a year—\$1.50 per 15. Delivered. By Parcel Post. Fred Astling, Constantine, Mich.

BARRED Plymouth Rocks bred to lay and exhibit. Buy your eggs from trusted birds. Our birds lay 50 per cent. all winter. Eggs \$2.00 per 15 from our best pens. Boswell Bros. Lincoln Lake Poultry Farm, Box 74, Ludington, Mich.

BARRED ROCK EGGS and Baby Chicks. Four pullets lay 950 eggs in 12 months. Average 237 eggs each. W. C. Coffman, R. 3, Benton Harbor, Mich.

RINGLET BARRED ROCKS direct from Thompson's RA limited amount of eggs for hatching from vigorous stock. \$1.50 per 15. G. Gardner, Petersburg, Mich.

BARRED Rock Eggs for hatching of Bradley Bros. strain, \$1.50 per setting 13, \$5.50 per setting 50 eggs. A. A. PATULLO, R. 4, Deckerville, Mich.

Buff Wyandotte and Barred Rock Cockerels \$2.00 each, eggs for hatching \$1.00 per 15. Mrs. R. W. BLACK, Caro, Michigan

Cousins Northern King Strain Barred Plymouth Rocks. Have won many prizes. Eggs \$2. for 15. Both matings. Satisfaction guaranteed. David W. Cousins, North Port, Mich.

Chicks that Live \$15 per 100. Silver, White and Partridge Wyandottes. White Leghorn Chicks \$12 per 100. Pekin and Rouen Ducklings 25 cents each. ALDHAM POULTRY FARM, R. No. 37, Phoenixville, Pa.

Prize Pen, Bred-to-Lay B. P. R. 13 eggs \$3.00; Utility 301, Shelby, Oceana Co., Mich.

JOHN'S Big, beautiful, hen-hatched Barred Rocks. Eggs, 30, \$2.50; 100, \$7.00. Select matings 15, \$4; 30, \$7.00, all postpaid. Photos, Circulars, John Northon, Clare, Mich.

BARRED Plymouth Rock Eggs from full blood heavy laying stock. Fine hatching, none better. 15 eggs, \$1.00; 100, \$4.00. Egg-A-Day Poultry Farm, R. 2, Ceresco, Mich.

BARRED Rock Eggs from healthy, vigorous stock. \$1.50 per 15; \$3.25 per 50; \$5.00 per 100. Sam Stadel, Chelsea, Mich.

DAY-OLD CHICKS

30,000 for 1916 from Standard Bred S. C. White Leghorns, \$9.00 per 100, \$85.00 per 1,000; S. C. Brown Leghorns \$9.00 per 100, \$85.00 per 1,000. Our strains are heavy layers and are sure to please you. We guarantee their safe arrival. Catalog on request. Wolverine Hatchery, Zeeland, Mich. Box 2221

CYPHER'S TRAPNEST strain of Single Comb White Leghorns. Eggs for hatching, 15 \$1.50; \$3; 100, \$5; 500, \$23. Thos. H. Barnes, Creston, Ohio.

CHICKS. We ship thousands each season. Ten varieties. Ancona's \$11 a hundred, free booklet. Freeport Hatchery, Box 12, Freeport, Mich.

EGGS for hatching from pure bred White Plymouth Rocks and S. C. Buff Leghorns of free range. Kietzlen & Webster, Bath, Mich.

Practical Poultry Pointers

THE following points have been collected from notes taken during the poultry lectures at the Michigan Agricultural College during Farmers' Week. The lectures were given by Judge W. H. Card, Professor Burgess of the poultry department, and several practical breeders of considerable experience.

Judge Card claims to have the best success in producing vigorous stock by feeding no ground bone, beef scrap or dry mash. He is an advocate of hard grain and plenty of green food to develop stamina in fowls.

Plenty of room, fresh air, sunshine and dryness are the necessary features to consider in building a poultry house which will keep the birds healthy and contented. No house should be less than fourteen feet deep as this depth will keep draughts away from the roosts. The dropping boards should be two feet from the floor.

The ideal type of a Leghorn is oval in shape. The Rhode Island Red is about the shape of a brick. Judge Card advises breeders of the Reds to place a brick over their poultry house door and study it daily, especially when they are mating up the breeding pens for the year.

A man and his wife by systematic co-operation should be able to handle 2,000 fowls successfully. If it is necessary to have a hired man to look after the poultry it means that at least 500 of the hens must work to pay the expenses of keeping the man. For example, if you must sell 500 hens or hire a man it would be just as well to dispose of the hens, as the financial result would be the same. The 500 hens would practically be working for nothing unless the man could be used for performing other lines of work at the same time.

In conducting the poultry business, learn to be a seller and not a buyer if you wish to make money. By a careful system of line-breeding you avoid the necessity of buying extra males every year. By line breeding you can afford to pay a good price for the foundation stock with the assurance that you will never have that expense again. You will be able to grow your own breeding stock and produce stock of quality and then it follows that you can be a seller and not a buyer every year.

Inbreeding tends to deterioration, but it can be controlled by line-breeding. Breed only from the best stock you can obtain and then continue the selection wisely. Start with a pair that is your ideal, the best pair you can find will have enough defects. Practice selection for vigor and the points you wish to retain while at the same time try to eliminate undesirable characteristics wherever they occur. It takes six years to make a start in line breeding. R. G. KIRBY.

SPRING MANAGEMENT OF TURKEYS.

A nest covered with brush, or evergreen boughs, is more apt to attract the turkey hen. The nests should be large enough so the hen can turn and come off without breaking the eggs. The barrel nests should be firmly braced and covered so there is a small opening then the sly old hen will creep in and imagine she is hiding her nest. They like to hide their nests along a hedge fence and sometimes they cover their eggs with grass or leaves, and if you are not careful when looking for a turkey nest you will step on it.

Nights are cold this month and eggs must be gathered every evening to prevent chilling. Also, we find hens are more apt to continue laying in a nest if you put several china eggs or hens' eggs in for nest eggs. Removing all the eggs from a nest will cause them to hunt a nest elsewhere.

We have had turkey eggs hatch well

when kept for three or four weeks, but one is more sure of getting a good hatch when eggs are kept not longer than two weeks. We keep them in an even temperature, resting on the small end, changing their position at least every other day.

Where turkeys have plenty of range during the laying season it is only necessary to feed them at night. Oyster shell grit, charcoal and fresh water should not be overlooked as they are an essential part of their ration at this time of the year.

We find about 90 per cent of our turkey eggs are fertile when the breeding stock is vigorous and just moderately fat.

Turkeys of the same breed and age will lay a varying number of eggs. Last year we had a turkey hen lay the entire season and did not offer to sit, while the others became broody after laying from 15 to 20 eggs.

Indiana. FRANCES WOOD.

TIMELY POULTRY HINTS FOR SPRING.

To be highly successful in getting hens to do good work at the winter-egg-basket-filling business it is necessary to begin the foundation structure now. To make good winter layers, the pullets must be pretty well matured by the first of November. This means early hatched chickens that have been well-fed through the growing season. Vigorous growing makes for prolific laying. Puny, slow-growing pullets will never lay enough eggs to pay their raising and keep.

Proper food and plenty of it is necessary to the proper development of the pullets; so, also, is exercise. For exercise there is nothing better than free range, although scratching in litter for the grain affords a fair substitute. Where runs are more or less restricted, it is necessary to supply animal food to take the place of that secured on a free range. Even when on a free range we give the chickens all the cut bone they will consume.

Now is the time to make provision for next winter's green food supply. For this purpose there is nothing better than mangels. The sugar mangel has a larger sugar content than the other sorts, and for this reason I prefer it. In color it is white, like the sugar beet, but it grows up from the ground like the yellow or red mangels. It is a heavy cropper and easy to harvest.

Put in some carrots, too, as they go well for a change. Cabbages are all right but they are bulky, and do not keep so well as roots.

Of course, anyone who has seen hens go for clover and alfalfa appreciate the value of these for winter feed for the poultry. If there is not a patch of these plants already established, now is a good time to start them.

Emmet Co. M. N. EDGERTON.

POULTRY INVESTIGATIONS.

In experiments made at the California Station a pen of 50 two and three-year-old hens without high protein feed laid 102 eggs per hen during the year. Hens fed high protein in addition gave the following number of eggs per hen per year: On soy bean meal, 104.9; meat scrap, 129.7; fish scrap, 131.7.

Five pens of 33 hens each were fed a grain mixture consisting of whole wheat, whole barley, and cracked corn, 150:100:50, also a dry mash consisting of bran, shorts, charcoal, and salt, 50:50:5:1, to which was added either 30 parts of meat scrap alone or 30 parts of a high protein ration consisting of a combination of meat scrap with soy bean meal or linseed meal. The average amount of feed consumed per hen per year in the five lots was 49.5 lbs. of grain and 23.5 lbs. of dry mash. The average number of eggs laid per hen was 142. The average cost per dozen eggs of grain and mash consumed was 10.5 cents.

Farmers' Clubs

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

Associational Motto:

"The skillful hand with cultured mind is the farmer's most valuable asset."

Associational Sentiment:

"The Farmer: He garners from the soil the primal wealth of nations."

PATRIOTISM.

(Continued from last week.)

Judge Davis was the leader of the Lincoln forces in the Chicago convention, and more than any other, was responsible for Mr. Lincoln's nomination for president in 1860.

Sometimes it happens that the biggest crop of laugh is produced by a man who ranks among the greatest and wisest. Such a man was Abraham Lincoln, whose wholesome fun mixed with true philosophy made thousands laugh and think at the same time. He was a firm believer in the saying, "Laugh and the world laughs with you."

Whenever Abraham Lincoln wanted to make a strong point, he usually began by saying, "Now, that reminds me of a story," and when he told the story everyone saw the point and was put into good humor.

Before Lincoln was ever heard of as a lawyer or politician, he was famous as a story teller. As a politician, he always had a story to fit the other side; as a lawyer he won many cases by telling the jury a story which showed them the justice of his side better than any argument could have done. While nearly all of Lincoln's stories have a humorous side, they also contain a moral, they contain lessons that could be taught so well in no other way. Every one of them is a sermon. Lincoln, like the Man of Galilee, spoke to the people in parables. In 1861 Fort Sumpter was fired upon and President Lincoln called for men to quell the rebellion, and with patriotism in their hearts they hurried to the front to put down the Rebellion and save our country and our country's flag. It was a long and bloody struggle, but they gallantly held out for four long years, and with the right on our side and the help of God, won. I was but a child at the time, hardly old enough to know the meaning of war, but the anxious faces of father, mother and sisters when the papers reported a battle, caused me to early learn the lesson, and I soon waited as anxiously as the rest for news from the front.

When treason armed her sires and sons,

And on Fort Sumpter opened guns,
They kindled every patriot's ire,
And set the northern hills on fire,
While down the valleys armies tread
With freedom's banners overhead,
Then on the land and on the flood,
Heroic deeds were sealed with blood
And many sent their record high,
Ready to do, to dare or die.

Our flag was often shattered, riven,
Our men to rebel pens were driven.
Or for that flag we proudly trust,
They made the winding sheet the dust,
And through the battle's thickest fight
There failed not men in strength of might

To stand in breach which cannon made
And fire with nerve and steel invade,
But blows of battle quick and fast,
The foul rebellion crushed at last.
And then our flag in triumph waved,
Over a nation once more saved.

We honor those whose hearts have beat
'Neath stripes and stars of battle's heat,
Who stood 'twixt us and freedom's doom
And for us faced the cannon's boom,
And we will honor all its brave
Who nobly fought to country save,
And cherish more than heretofore
It's brave defenders evermore.

(Concluded next week.)

CLUB DISCUSSIONS.

Entertained in City.—About 150 members of the Ceresco Farmers' Club were delightfully entertained Wednesday, March 29, by the Kellogg Toasted Corn Flake Company, of Battle Creek. The members were met at the interurban waiting rooms at 12:30 p. m. and taken to the company's plant in special cars. After visiting the office and

Grange.

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

KENT COUNTY POMONA.

Efficiency was the keynote to the program of Kent County Pomona Grange, which was held with Bowne Center Grange, March 23. Sunshine, hospitality, and good fellowship reigned supreme in spite of the drifted roads. Reports were received and read from seventeen Granges of the county.

Pomona Lecturer F. N. Church, opened the afternoon session with remarks on the financial and social benefits of the Grange, then called on Mr. Clayton Johnson, master of Bowne Center Grange, who gave a very cordial greeting to visiting members and friends.

Mr. Arthur Clark, ex-president of West Michigan Holstein Association, in "Both Ends of the Farm Game," left with us the idea, "No one need be afraid of a little bit of debt, provided he is in debt for the right kind of goods," especially if he takes energy, intelligence and a good wife into partnership.

Mrs. John Rittenger, of South Lowell Grange, had a fine paper on "Needs in our Homes to Bring About Greater Efficiency," which was added to by Mr. H. G. Smith, county agricultural agent, by stating that M. A. C. would send a man to give advice on heating of houses or planning of convenient kitchens if five persons wished that advice.

Rev. Mr. Parshall, Bowne Center, stated that often poorly planned houses caused waste of fuel enough to help install good heating systems.

"Value of Farm Accounts and Invoices," was next given by J. W. Spangenberg, Sparta. "Efficiency becomes the necessity of success—doing the right thing at the right time in the right way." Be efficient in recording the business of the farm as well as in planning the work of the farm.

The principal address of the afternoon by Mrs. Dora Stockman, state lecturer, was full of good things and did not leave out the need of efficient parents as well as efficient managers of the work. She also left with us, "Success is in cans, not can'ts."

This program was interspersed with music by the Barnaby Family Orchestra, the members being father, daughter and two sons, twelve and fourteen years old.

The fifth degree session at 7:00 p. m. was followed by the program of the evening. The male quartette of Bowne Center gave the first musical number. The addresses of the evening were of the same high order as those of the afternoon: Mr. T. H. McNaughton, master of Kent Pomona; Rev. R. Parshall, on "The Strength of a Nation," and Mrs. Stockman on "The Land of Promise."

In addition to the numbers by the orchestra and the male quartette, Mr. Kallanger, Superintendent of Instruction, also gave two fine vocal solos, and Miss Leota Bancroft, two recitations, with piano accompaniment for one of them.

The topics of the day were quite fully discussed by Mr. H. G. Smith and others.

Resolutions were adopted favoring the budget system of taxation; legislation to place a limit to tax levy; against any legislation that will change the present parcel post laws; thanking the members of Bowne Center Grange, ladies of that church and owners of autos for their part in the successful day.—Mrs. J. W. Spangenburg.

the corn flake building the guests were taken to social hall, one of the handsomest rooms of the kind in the country, which has been built during the past year for entertaining visitors and for the use of the employees. Here Prof. Olmstead delivered a very interesting and instructive stereopticon lecture on the different cereals made by the company and their rapid growth in popularity. After the lecture a short but pleasing program was given by the Club, after which the guests assembled in the large dining-hall where a fine four-course banquet was served. As this was the second time the K. T. C. F. have entertained the Club, a rising vote of thanks was extended to them and their representative, Mr. Olmstead, for the very pleasant entertainment afforded the Club. The next meeting of the Club will be held the last Wednesday in April with Mr. and Mrs. J. Paul.—Mrs. C. A. Palmiter, Cor. Sec.

PERE MARQUETTE

An Anniversary

On the fifth day of April this year, the seventh Receivership of the Pere Marquette Railroad and its predecessors, was four years old.

Despite the earnest efforts of the Court, the Receivers, the owners of the Road and the officers and employees, it has not been possible to get the road out of bankruptcy.

The task is a tremendous one, and while progress has been made and is being made, success is not yet assured.

Sixteen million dollars of new money must be raised. Investors whose money has gone into the property have evinced a willingness to make sacrifices. But this vast amount of new money and these voluntary sacrifices are not of themselves enough.

There must be a reasonable prospect of keeping out of bankruptcy after getting out. There is little use of making the effort to reorganize the Railroad if it is going back into a Receivership again in the course of a year or so.

And this is where the question of rates comes in. It is safe to say that if a reasonable increase in passenger fares could have been granted at the last session of the legislature a reorganization could have been brought about before this time. Why? Not because of the increased revenue so much, although that would have helped, but because it would have been an indication that Michigan was adopting a new policy—one less repressive, less restrictive, than the old. It would have been an encouragement to the man who must go down into his pocket for his part of the sixteen millions.

For why should a man invest good money in railroad securities under conditions existing in Michigan today? He can secure a greater and safer return in almost everything else. As a matter of fact he is not investing in Michigan railroads today. Last year in the whole state of Michigan, but twenty-one and one half miles of new main track were built. A very small development representing a very small investment in a great and growing state.

The chief hope for a reorganization of the Pere Marquette rests on a change in public sentiment already manifest in many other ways, if not yet through legislation. The People of Michigan are beginning to realize that the state needs the Pere Marquette; that when the State refuses to let the Road earn enough to pay its way, it refuses the people the right to the service they need in their every day life; that bankruptcy and service fully satisfactory, cannot go together; and that the state cannot force the Road continuously and permanently to operate its passenger trains at a loss and expect to get as good service as though running at a fair profit.

There is hope in this awakening public sentiment as the forerunner of a new policy on the part of Michigan—even a generous policy, and the Road must be so conducted as to merit it. The State and the Railroad must work together for the common good. "Co-operation" is the keynote of the future. Railroad Receiverships so long the rule in Michigan will then be a thing of the past and we will all wonder how Michigan tolerated even for a moment the existence of such a shortsighted policy as that of the present time.

James King

Operating Receiver,
Pere Marquette Railroad

Talk No. 4

Saving the Little Chicks

Last year, while her neighbors were losing their chicks by the score from White Diarrhoea, Mrs. S. B. Middleton of Wilsey, Kans., never lost one. For the benefit of other poultry raisers, Mrs. Middleton has written her experience:

"Two years ago I gave up poultry raising because I had lost so many little chicks from White Diarrhoea. Early last year I began to read of what Chicton had done for others, so decided to try again. I obtained a 50c box from The Wight Company and after using it I never lost a chick. I raised between 300 and 400 fine, healthy chicks, and Chicton gets all the praise for saving them." Mrs. S. B. Middleton, Wilsey, Kans.

Chicton gets results! Resolve TODAY that you will save YOUR chicks from White Diarrhoea. Chicton is guaranteed to save 90%. There are lots of substitutes, but there's only one Chicton. Chicton is not a poison. Sold in 50c boxes—in tablet form only. Delay is dangerous. Order today from

THE WIGHT CO., Dept. 253, LAMONI, IOWA

BEES PAY BIG PROFITS

Raise your own honey. We start you right. Send today for **FREE** Sample copy of *American Bee Journal* and *Bee Supply Catalog* and *Beekeeping Journal*. Oldest Bee paper in America—all

A. G. WOODMAN CO., Dept. 18, Grand Rapids, Mich.

BEES, BEE SUPPLIES, BERRY BOXES AND SEEDS.

Send for free catalog and save freight. S. J. GRIGGS & COMPANY, Dept. A, Toledo, Ohio

Strong Day Old Chicks \$10 Per 100. S. O. W. Leg. Selected hatching eggs, \$4.50 per 100 prepaid. Guaranteed delivery and fertility. Everfresh Egg Farm, Ionia, Mich.

"PREMIER" PARTRIDGE WYANDOTTES 80% winter layers. Eggs \$. per 15. W. H. BACON, Petersburg, Mich.

LEARN AUCTIONEERING at World's Original and become independent with no capital invested. Every branch of the business taught in 5 weeks. Write today for free catalog. JONES' NAT'L SCHOOL OF AUCTIONEERING; 28 N. Sacramento Blvd., Chicago, Ill. Carey M. Jones, Pres.

COLLIE DOGS

The Best on Earth at Reasonable Prices. E. A. ROGERS, Dundee, Michigan.

Fox, Coon and Rabbit Hound Pups From the best of blood and broke hounds. \$5.00 each. Broke hounds at all times, stamp photos. H. C. LITTLE, Fredericksburg, O.

HOUNDS FOR HUNTING—Fox, Coon and Rabbits, all ages. Send 2 cent stamp. W. E. LECKY, Holmesville, Ohio

BREEDERS' DIRECTORY.

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

CATTLE.

ABERDEEN-ANGUS

HERD ESTABLISHED IN 1900. TROJAN-ERICAS and BLACKBIRDS only. Also breeders of Percheron, Hackney and Saddle Horses.

ABERDEEN ANGUS

If you are in need of an extra good bull or a few choice young cows or heifers, we have them for sale.

Aberdeen Angus Four young bulls also young cows and heifers. Extra good. Priced reasonable.

FOR SALE—14 Angus bulls 9 months and older, including our herd bull. Also a few cows and heifers.

AYRSHIRES—One of the foremost dairy breeds. The most economical milk producers.

VILLAGE FARMS, Incorporated

Grass Lake, Michigan,

GUERNSEY CATTLE

BERKSHIRE HOGS

MILO D. CAMPBELL CHAS. J. ANGEVINE

BEACH FARM GUERNSEYS

Average 422.3 lbs. of fat per year, three-quarters of them being two years old.

By the use of a pure bred sire, a big improvement can soon be attained if the right selection is made.

CAMPBELL & ANGEVINE

Coldwater, Michigan.

GUERNSEYS—REGISTERED BULL CALVES

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

Registered Guernsey Bull Calves for sale, May Rose breeding. Address Clint Bishop, Watervliet, Mich.

AVONDALE Guernsey bulls all sold. Sorry to disappoint those wishing our stock.

Guernsey Bulls of service age and calves from choice. Adv. reg. breeding.

FOR SALE Reg. Guernsey bull calves, dams running in a. r. now. Cheap now, write JOHN EBELS, HOLLAND, MICH. R. No. 10.

AT Farmers' Prices Registered Guernsey Bull calves from A. R. dams and dams being tested.

GUERNSEYS—still they go, just one bull calf left—out of Pauline Spotswood (746 lb. fat).

One Extra Fine Registered Guernsey Bull. For a r old. Price \$50. E. W. RUCHS, Caledonia, Mich.

GUERNSEYS

We offer a choice lot of high grade Guernsey cows and heifers, bred to registered bulls.

Registered Guernseys Bull calves for sale at reasonable prices.

Herefords—3 Bull Calves

ALLEN BROS. PAW PAW, MICH.

WANTED Someone to buy 2 Registered 3-year old Holstein heifers with records of 17.08 and 16.17.

For Sale—Holstein Calves, Bulls and Heifers. Will accept a few ewes in payment.

Holstein Bulls For Sale

Four of them from 12 to 17 months old by 1st sire dam's A.R.O. Price \$100.00 to \$150.00.

Livingston County Holstein Breeders' Sale Company

Will Sell 100 head of Registered Holsteins, at HOWELL, MICH.

Wednesday, May 17, 1916

(LARGER AD LATER)

Catalogs May 7. F. J. Fishbeck, Secy.

Do You Want A Bull?

Ready For Service.

From a grand daughter of The King of the Pontiacs. Sired by a bull that is more than a half brother to the Champion Holstein Cow of the World.

EDWIN S. LEWIS, Marshall, Mich.

Reg. Holstein Females—Pontiac Breeding 1 to 5 years. John A. Rinke, Warren, Mich.

Howell Consignment Sale Co.

Sixth Annual Sale of 100 Registered Holstein Friesians 100 AT HOWELL, LIVINGSTON COUNTY, MICHIGAN, ON APRIL 26, 1916

This will be a choice lot of cattle representing the best lines of breeding. Our herd sires are strongly bred in the 30-lb. class.

Col. Perry and Mack, Auctioneers. MARK B. CURDY, Secretary.

WEST MICHIGAN HOLSTEIN BREEDERS' Fifth Annual Consignment Sale

AT THE WEST MICHIGAN STATE FAIR GROUNDS IN GRAND RAPIDS, MICHIGAN, ON Wednesday, May 3, 1916

A Breeders' Sale of 90 Head of High-Class Registered Holstein Cattle From Breeders' Own Herds.

Everything over six months of age carefully Tuberculin Tested by Government Veterinarians from the Bureau of Animal Industry.

A sale where you get healthy cattle of quality, and where buyers come back the second time. Granddaughters and grandsons of Pontiac Korndyke.

W. R. HARPER, Sale Manager, Middleville, Michigan.

Duroc Jersey Herd Boars

Special Offering of High Class Fall Boar Pigs. Breeding and Individuality good enough for breeders who appreciate the best.

Also some good farmer's boars. This is the best lot of fall pigs we have ever had to offer.

Brookwater Farm, Swine Dept., Ann Arbor, Mich.

HATCH HERD

YPSILANTI, MICH.

Has been breeding better Holstein-Friesian cattle for about ten years. We will hold a PUBLIC SALE at Ypsilanti, May 2nd.

Announcement Extraordinary

The "Espanore Herd" of Registered Holsteins will be offered the public at a great Dispersion Sale May 9th.

ESPANORE FARM LANSING, MICHIGAN.

Holstein Bulls Ready For Service.

Grandsons of Friend Hengerveld DeKol Butter Boy and Pontiac Aggie Korndyke.

LONG BEACH FARM, Augusta, Michigan. (Kalamazoo, Co.)

FOR SALE SOME VERY FINE YOUNG BULLS

Whose sires have as high as 31 lbs. of butter behind them. As they are young, will make a low price on them.

HOLSTEIN Bull Calf; Born Nov. 8th. A nice individual, well grown, about evenly marked.

HOLSTEIN-FRIESIAN CATTLE

Herd headed by grandson of King Segis Pontiac, and tuberculin tested annually.

PEACELAND STOCK FARM, Three Rivers, Mich. Chas. Peters, Herdsman. C.L. Brody, Owner. Fort Huron, Mich.

For Sale: Big Holstein Bull 2 yr. old. Good breeding. Reg. bulls and heifers 10 mos. old.

Choice Holstein Bulls. All from A. R. O. Dams. Semi-officially yearly records 720 lbs. butter in 4 yr.

75 gets Hazel-let grandson of Maplecrest DeKol 75 Parthena and Pontiac Maid 30.2 lb. Born March 26.

"TOPNOTCH" Holsteins

By careful retention, for many years, of largest producing females, and use of superior sires.

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

Registered JERSEY BULLS and Heifers, Duroc Jersey Boars and bred sows for sale.

Maple Lane R. of M. JERSEY HERD offers for sale, tuberculin tested cows, heifers, bulls.

BIDWELL SHORTHORNS

For "Beef and Milk" Registered bulls. Scotch-topped roans.

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

The All-Around Jersey is the farmer's cow. She's his friend and pride—the beautiful, gentle, ever-paying milk machine that lifts the mortgage, builds up the fertility of the farm.

DAIRY Bred Shorthorns of best Bates strains. No more females for sale at any price.

FOR Sale—12 Reg. Short Horn Bulls by Maxwalton F. Monarch 2nd, a son of Avondale, from 5 to 9 mos. old.

Shorthorn Cattle. Five cows, Ten heifers. Five bull calves; also herd bull for sale.

Shorthorn Cows and Bulls For Sale R. R. Station, Elsie. H. B. PETERS, Carland, Mich.

For Sale Shorthorn Herd Bull at beef price. description. W. F. BARR, Aloha, Michigan.

Shorthorn AND POLLED DURHAMS FOR SALE. Have red-roan and white. Have over 100 head in herd.

Shorthorn Bulls for sale from a good milking herd.

Shorthorns—Dairy or beef bred. Breeding stock all ages for sale at farmers prices.

Polled Durhams for Sale. 8 young cows and heifers bred, 18 mo. to 5 years. Prices right.

Loads feeders and two load yearling steers. Also can show you any number 1, 2 and 3 years old from 600 to 1200 lbs.

HOGS.

TAKEN FROM LIFE Raise Chester White Hogs Like This

(CALLED BY SOME O. I. C. S.) Write for my plan "How to Make Money from Hogs"

I have started thousands of breeders on the road to success. I have a very large and fine herd.

G. S. BENJAMIN R. No. 10, Portland, Michigan

Royalton Bred Berkshires. Six weeks old pigs, both sexes, registered with papers \$7.00 each.

BERKSHIRES, Bred gilts and sows due to farrow in April and May.

Berkshire Hogs. Sows bred to farrow in April. Best, Maple Place Farms C. S. BARTLETT, Propr.

SWIGARTDALE FARM

BREEDERS OF HOLSTEINS AND BERKSHIRES

Stock for sale at all times. Berkshires unsurpassed quality and breeding.

Swigartdale Farm, Petersburg, Mich.

Chester Whites: Long type prolific kind. Orders booked for spring pigs.

Chester Whites Spring pigs from the best blood lines F. W. ALEXANDER, Vassar, Mich.

Capitol Herd D. J. Swine. Young sows bred, young boars, pigs both sex.

DUROC JERSEY BOARS a choice lot of spring boars, not akin.

Duroc Jerseys—Fall and spring pigs either sex, from choice strains.

DUROC JERSEY Bred sows and gilts all sold. Booking orders for spring pigs.

DUROC JERSEYS—Fall boars of the large heavy boned type.

DUROC Jerseys—Fancy fall pigs (either sex). Buff Rock eggs \$1.25 per 15.

Duroc Jersey—Sept. boars ready for service also open gilts and some sows bred for Aug. and Sept.

Duroc Jerseys Two good fall gilts, also two fall boars.

DUROC JERSEYS—A few bred gilts for sale.

Duroc Jerseys I have some good last September Boars and gilts.

Duroc Aug. Boars at the right price. Pigs at weaning time.

DOBSON'S DUROCS Combine size, quality, breeding. Boars for sale.

O. I. C. BRED GILTS, Also young boars shipped C. O. D.

Breeders' Directory—Continued on page 567.

Veterinary.

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

Chronic Soreness.—I have been treating my brood mare for chronic soreness for several months and she is no better. She is due to foal in the early part of June. C. R., Mt. Clemens, Mich.—Good care, proper shoeing, light work, or no work, is perhaps all that can be done for her. Not much danger of her colt inheriting her soreness, unless it be navicular disease.

Capped Hock.—I have a span of horses that have capped hocks on the right hind leg. These bunches have appeared within the past few weeks. Our local Vet has been treating them with rather poor results. G. S., Portland, Mich.—You will obtain fairly good results by applying equal parts tincture iodine and spirits of camphor three times a week, but bear in mind that capped hock is not easily entirely reduced.

Warbles—Unthrifty Mare.—I would like to know more about warbles and how to treat them. I also have an aged mare that does not thrive as well as she should and her hair is long and shaggy. F. S. W., Luther, Mich.—During the months of July, August and September the gadfly deposits eggs on the neck, shoulders, fore legs and other parts of body, which are licked in or taken in by the food in embryonic state. The heat and moisture of body grows them, some of them lodging in gullet or in the stomach of horses, and others in the back of cattle. Washing the cattle and horses with one part coal tar disinfectant, and 30 parts of water, or applying any of the fly repellants that are regularly advertised in this paper, you will pretty much prevent your cattle from becoming infected next summer. Squeeze out the grub or open hide and let others escape, then apply one part coal tar disinfectant and 30 parts water to back once a day, and any other good home healing remedy, but be sure and kill all the grubs that you squeeze out. Clip your mare and increase her food supply; also feed her some roots and she will do better.

Light-Milking Heifer.—I have a heifer 18 months old that just had a calf and she does not give any milk. Her bag is not caked, but there is a hard bunch in bag at the top of each teat. Our Vet. advised me to beef her as she would never make a good cow, but I would like to have your advice before arriving at a decision. S. M. V. N., Alto, Mich.—Your Vet. gave you good advice.

Indigestion—Cough.—I have a five-year-old horse in an unthrifty condition that has not been well during the winter. I have thought that his urine was too thick. I also have a heifer that occasionally coughs. C. A. R., Atlanta, Mich.—Mix together one part powdered sulphate iron, one part powdered nitrate of potash, one part ground nuxvomica and three parts ground gentian and give him a tablespoonful at a dose in feed three times a day until he commences to thrive, then give not more than one-half the quantity. Your heifer needs no medicine, but she should be kept free from dust and her stable should be better ventilated and supplied with fresh air during the night.

Punctured Hock Joint.—We have a seven-year-old mare whose hock joint was punctured with a fork prong, but it did not go very deep. We called our local Vet. at the time she was injured and he left a liniment for us to apply. We also applied a piece of pork hide, soaked in turpentine, but this failed to do any good and she has never gotten well. T. B., New Hudson, Mich.—Apply tincture of iodine to hock joint three times a week.

Infected Udder.—I have a cow that has been giving clotted milk from two quarters of udder for the past three weeks and now the third quarter is becoming affected. There is no perceptible swelling, nor feverishness in the udder and no pain. I also have a driving horse that coughs some when in the stable, but I never hear him cough when out doors. E. T. S., Fremont, Mich.—Apply one part fluid extract of belladonna, one part fluid extract of phytolacca and four parts lanolin to udder once a day. Let fresh air into your stable and your horse will stop coughing.

Barren Heifer.—My three-year-old Jersey heifer comes in heat every three weeks, but fails to get with calf. G. D., Dunningville, Mich.—Dissolve 1 dr. permanganate of potash in three quarts of tepid water, wash out vagina three times a week and six hours before you breed her, wash her out with a soda solution made by dissolving one tablespoonful of bicarbonate of soda in a quart of clean tepid water.

Let These

NORTH DAKOTA Battleships Protect Your Prosperity

Here is North Dakota's invincible Preparedness Fleet in one town of less than one thousand population—giant elevators which house the farmers' grain.

Why don't you come and enjoy this protection with our North Dakota farmers? PREPAREDNESS with them means more acres of grain, more live stock, comfortable homes, schools and churches. NORTH DAKOTA is coming rapidly into its own. The 1915 crop of grain along the Great Northern Ry. in that state amounted to more than EIGHTY-SIX MILLION bushels. The acreage of corn and alfalfa is increasing enormously every year. This means stock raising, combined with grain growing, for bigger and steady profits. Dairy and live stock products have more than doubled in the past few years.

Are you farming on high-priced lands? Then read of results on low-priced land in North Dakota.

M. C. Crockett, one of our big farmers writes:—"I came from Iowa to North Dakota—came from a good stock country, and I have always kept a good herd of cattle and some hogs, and know that all kinds of live stock can be profitably raised here just as well as in Iowa. I now own 2080 acres which I have added to my homestead as I could pay for it, and I figure my soil and farm just as good as they have in Iowa for \$200 per acre. And farm is not for sale."

Medium-Sized Farms Pay Best

Joseph Kasal is a 160-acre farmer in North Dakota. In 1915 he threshed from 127 acres in grain, wheat, 1,743 bushels—oats, 841—barley, 815. Cows, pigs and poultry supply the table necessities. The Great Northern Railway has no land for sale in North Dakota, but there are hundreds of large farms like Mr. Crockett's and larger—there is a great amount of land owned by non-residents. We re-in-

terested in having these large farms divided into 160 and 20 acre working farms. If you own or rent high-priced land, you will be interested in learning what our North Dakota farmers are doing on land equally productive, but which costs only about one-fifth as much and may be secured on very easy terms. In fact, what is ordinarily paid by renters will make the payments on a North Dakota farm.

North Dakota Bulletin FREE

Write for free bulletin and map and facts about the soil, and ways of crop yields, experience letters from actual settlers. We will assist you in every way possible in finding a suitable location in any part of the state and our services to you are FREE. Special Low Fares for Home-Seekers. Write today. Address me personally. E. C. LEEDY, General Immigration Agent, Dept. 188, Great Northern Railway, St. Paul, Minn.

MEMORY JOGGER
I will send this today to E. C. LEEDY, General Immigration Agent, Dept. 188, Great Northern Ry., St. Paul, Minn.

Please send me free booklets and full information regarding money-making farms along the Great Northern Railway in North Dakota.

Name..... Address.....

A Holstein Dispersal Sale

One of Michigan's Greatest Herds
Espanore Farm, Lansing, Mich., May 9, 1916
68 Head of the Desirable Kind

At the head of this herd is Pledge Spofford Calamity Paul, who has a wonderful list of A. R. O. daughters including 3 with records of 30, 32 and 35 lbs. butter each in 7 days. This great sire is to be sold with a number of his young daughters.

Six Sisters to Michigan's greatest cow, Northern Fobes Denver (39.87 lbs.) IMPORTANT! Every animal is sold under an absolute guaranty as to health and breeding powers.

THIS IS A BREEDER'S HERD. Sold only because a growing city demands the land it occupies. You will find this A SAFE SALE TO PATRONIZE. For catalog or any other information, address

E. M. HASTINGS CO., Sale Managers,
Hastings Block, Lacona, N. Y. OR Pioneer Bldg., Madison, Wis.

HOGS



Registered O. I. C. Swine
Stock For Sale—All Ages
Correspondence Solicited, Visitors Always Welcome
Brightside Farm
Grand Lodge, Mich.

O. I. C. SPRING BOARS of good type and Red Polled bull calves.
John Berner and Son, Grand Lodge, Mich.

O. I. C. Choice serviceable boars. Choice gilts all sold. Fall pigs, either sex, not akin. Write for low prices and description. A. V. HATT, Grass Lake, Mich.

O. I. C. October boars weighing 200 lbs. at \$25 each for April shipment.
C. J. THOMPSON, Rockford, Michigan.

Way Brothers Stock Farm. The home of the big bone O. I. C. Hogs. Stock for sale. Registered free. J. R. Way, Three Rivers, Mich.

O. I. C. Boars for service. Gilts bred for May and June farrow. I prepay express. G. P. ANDREWS, Danville, Mich.

O. I. C. Serviceable boars, gilts bred for June farrow. Booking orders for Spring pigs, no akin. H. W. MANN, Danville, Michigan.

BIG TYPE O. I. C.'s and Chester Whites. Special prices on all boars and fall pigs either sex. These are sired by Abo 2nd, this boar sired our unbeaten breeders young herd at every state fair we showed this year, other sires are Wonder Boy, White Hall and Allen. This boar was junior champion at Wis. State Fair last year. Now Mr. Buyer our pigs are all sired from champions, our price is no higher than other breeders and the Express Co. charges just the same for a poor pig as it does for a good one. Get our catalog and see where the good ones are. We are booking for Spring pigs sired by Sch oolmaster, the highest priced boar of the breed and five times G. Champion. We Reg. Free and ship C. O. D. Rolling View Stock Farms, Cass City, Mich.

O. I. C. Swine. I am booking orders for Spring pigs. Elmer E. Smith, Redford, Mich.

O. I. C. bred gilts all sold, am offering Sept. boars and gilts, large growthy ones, and booking orders for spring pigs. A. J. Barker, R. 1, Belmont, Mich.

O. I. C.'s. A few bred sows to farrow in April, May and June. I have 20 last fall boars to offer, also gilts. Have them not akin. All good stock. Otto B. Schulze, Nashville, Mich. 1/2 mile west of depot.

O. I. C. September pigs, both sex. Bred E. B. MILETT, Fowlerville, Michigan.

O. I. C. SWINE I am offering choice gilts strictly O. I. C. type bred to farrow the forepart of May—also fall pigs price right. Stock registered in purchaser's name free of charge. A. J. Gordon, R. 2, Dorr, Mich.

O. I. C. SWINE, Oct. boars and gilts. 3 Registered Holstein Bulls sired by 27 lb. bull. Cloverleaf Stock Farm, Monroe, Mich. No. 1.

O. I. C.'s Some 2-year-old sows bred. Fall pigs, either sex. A. R. GRAHAM, Flint, Michigan.

O. I. C. Spring pigs, both sex, \$10.00 each at weaning time. Booking orders now. Recorded free. Satisfaction guaranteed. Julian P. Claxton, Flint, Mich. R. 8.

Boars at Half Price
We still have a few big boned, big type Poland China boars ready for service, weighing up to 250 lbs. not fat at \$20 & \$25 each. Registered in buyer's name. Also registered black Percheron Stallion 2 years old \$250.00. J. C. BUTLER, Portland, Mich., Bell Phone.

POLAND CHINAS

From our thousand pound Grand Champion Boar and Big Stretchy Sows. Also booking orders now for spring pigs.
Hillcrest Farm, Kalamazoo, Mich.

Big Type Poland China Pairs and trio not akin out of large litters.
G. W. HOLTON, Route 11, Kalamazoo, Michigan.

Big Type Poland Chinas—Boars of August farrow, booking orders for spring pigs. A. A. WOOD & SON, Saline, Michigan.

Large Strain P. C. 4 choice boars ready for service. Gilts left, some to farrow the last of April and first of May. At Farmers Prices.
E. O. SWARTZ, Schoolcraft, Michigan.

Large Type P. C. Gilts and sows, bred for Mar. and Moines, Big Knox Jr. and Giant Defender. Bred to Big Knox Jr. Smooth Wonder 3 and Big Junbo, four great boars in state. Come or write. W. E. Livingston, Parma, Mich.

For Sale Poland Chinas either sex, all ages. Something good at a low price.
P. D. Long, R. F. D. No. 8, Grand Rapids, Mich.

Heavy Boned Poland Chinas. Fall and Summer Pigs. Sows Bred. Eggs from big Barred Rocks \$1.00 for 15. ROBERT NEVE, Pierson, Michigan.

BIG TYPE POLAND CHINAC—bred sows and gilts all sold. Have several good spring boars and fall pigs. Both sex. Call or write.
W. BREWBAKER & SONS, Elsie, Michigan

Big Bone Poland China
Brood Sows, bred for spring farrow. Few choice males ready for service. Also M. B. Turkeys. Maplewood Stock Farm, Allegan, Mich.

REGISTERED Poland China Spring Boars and Sows at \$15 each. Making this special price to make room for others. A. G. Meade, Stanton, Mich., Colby's Ranch.

Large Type P. C. Sows & Gilts all sold. Have 3 extra good spring boars. Sired by Big Defender.
W. J. HAGELSHAW, Augusta, Michigan.

Large Yorkshire Swine all ages. Red Poll Bulls ready to use \$75 each.
E. S. CARR, HOMER, MICHIGAN

Large Yorkshires August September pigs. 2 spring boars. Prices reasonable.
W. C. COOK, Route No. 1, ADA, MICHIGAN.

Yorkshires Gilts
For March & April farrowing For Sale.
Waterman & Waterman, Ann Arbor, Mich.

GROWTHY THE DISEASE PROLIFIC "MULEFOOT" RESIST- PROFITABLE HOG ING

WE ARE NOW BOOKING ORDERS FOR SPRING PIGS

THE CAHILL FARMS

KALAMAZOO - - - MICHIGAN

Hampshire Swine. the great pasture hog. My herd contains the blood of some of the greatest champions of the breed. Headed by a son of the Great "Look Out." Bred sows and boars all sold. Booking orders for spring pigs. Can supply pairs and trios, not akin. Geo. E. Starr, Grass Lake, Mich.

Hampshire Hogs—Nothing for sale but Apr. Boars. Taking orders for spring pigs. Write your wants. John W. Snyder, St. Johns, R. No. 4, Mich.

Hampshire Swine. Pigs of both sex. Bred Sows. Service boars. Write for prices. Price to sell. FLOYD MYERS, R. No. 9, Decatur, Ind.

Berkshires of best breeding of various ages, either sex, all registered stock, no akin, special reduced price. Write your wants quick. Mitchell's Lakeside Farms, R. 2, Bloomingdale, Mich.

FOR SALE: Berkshire SOWS or BOARS, six months old, weighing about 140 lbs. at \$20 Vassar. This ad. will not appear again. GEO. D. CLARKE, Vassar, Michigan.

SHEEP.

Kope Kon Farms
SHROPSHIREs and DUROCS. KINDERHOOK, MICH

Oxford Down Sheep. Good yearling field Rams and ewes of all ages for sale.
M. F. GANSSLEY, Lennon, Michigan.

Leicesters—Yearling and ram lambs from Champion flock of Thumb of Mich. Also select Berkshire swine. Elmhurst Stock Farm, Almont, Mich.

HORSES

Valuable Percheron Stallions & Mares
Must be Sold to Close Estate

A. A. Palmer, Estate,
R. R. Orleans, Mich P. O. Belding, Mich

Registered Percherons
Brood mares, fillies and young stallions priced to sell. Inspection invited.
L. C. HUNT, Eaton Rapids, Michigan

For Sale: Two Registered Percheron Stallions coming three and six, black and grey. Will sell for 1/2 their value if sold soon. T. H. Love, R. 3, Howell, Mich

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

FOR SALE—Registered Percheron Stallion Mare and Fillies at reasonable prices. Inspection invited. F. L. KING & SON, Charlotte, Mich.

For Sale: Registered Percheron Stud colt folded in June 1915. E. J. Aldrich, Tekonsha, Mich., R. No. 1, Bell Phone.

LOESER BROS.

We have 100 head of Belgian and Percheron Stallions and mares. Imported and home bred. We have sold pure bred horses in Michigan for the last 25 years, and have the right kind, and at the right price. We can supply any number of work horses, both geldings and mares. Get in touch with us.

LIGONIER, INDIANA.

(Additional Horse ads on Page 562).

United States

'Balanced' Tires

At Last—the 'Balanced' Tire

The greatest forward step ever made in pneumatic tires

On January 8th, in the *Saturday Evening Post*, we announced that at last we had made pneumatic rubber tires more like other dependable articles of merchandise.

Stop and analyze this statement—"more like other dependable articles of merchandise."

Unless backed up by results, it would be almost commercial suicide for a tire manufacturer to make such a statement.

Now we are ready to tell you the reason for this fearless confi-

dence in our tires—the reason for the gigantic sales increases of our tires since September last.

Many months ago we finally worked out and began producing the completely 'balanced' pneumatic tire—the heretofore unattainable goal of every tire manufacturer.

To be 100 per cent. efficient, a tire must be absolutely 'balanced'—that is, the rubber tread and the fabric carcass of the tire must give equal wear.

'Balance' the tire maker's goal

To have perfect 'balance,' the rubber tread must have enough resiliency to absorb road shocks that tend to disintegrate the fabric, and still must have the toughness to give long wear.

Too much toughness reduces resiliency; too much resiliency sacrifices toughness.

Full, complete tire efficiency demands a 50-50 'balance' of the rubber tread and the fabric carcass—neither may be stronger nor weaker than the other.

Problem—find the 'balance.'

Full rubber-tread efficiency demands a 50-50 'balance' of resiliency and toughness.

Full fabric-carcass efficiency demands a 50-50 'balance' of fabric layers and rubber—a union that will make tread separation impossible.

This is the goal we have reached

By producing this complete 'balance' between resiliency and toughness in the tread, and between fabric and rubber in the carcass, we have secured 100 per cent. efficiency in United States Individualized Tires, or absolute 'balance'

of wearing quality in both rubber tread and fabric carcass.

By September last, these absolutely 'balanced' United States Tires began to be "felt on the market."

Since September, sales have increased steadily month by month up to the recent highest increase of 354 per cent.—this tells the story.

United States Tire Company

'Nobby' 'Chain' 'Usco' 'Royal Cord' 'Plain'
"INDIVIDUALIZED TIRES"

