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MICHIGAN FARMER

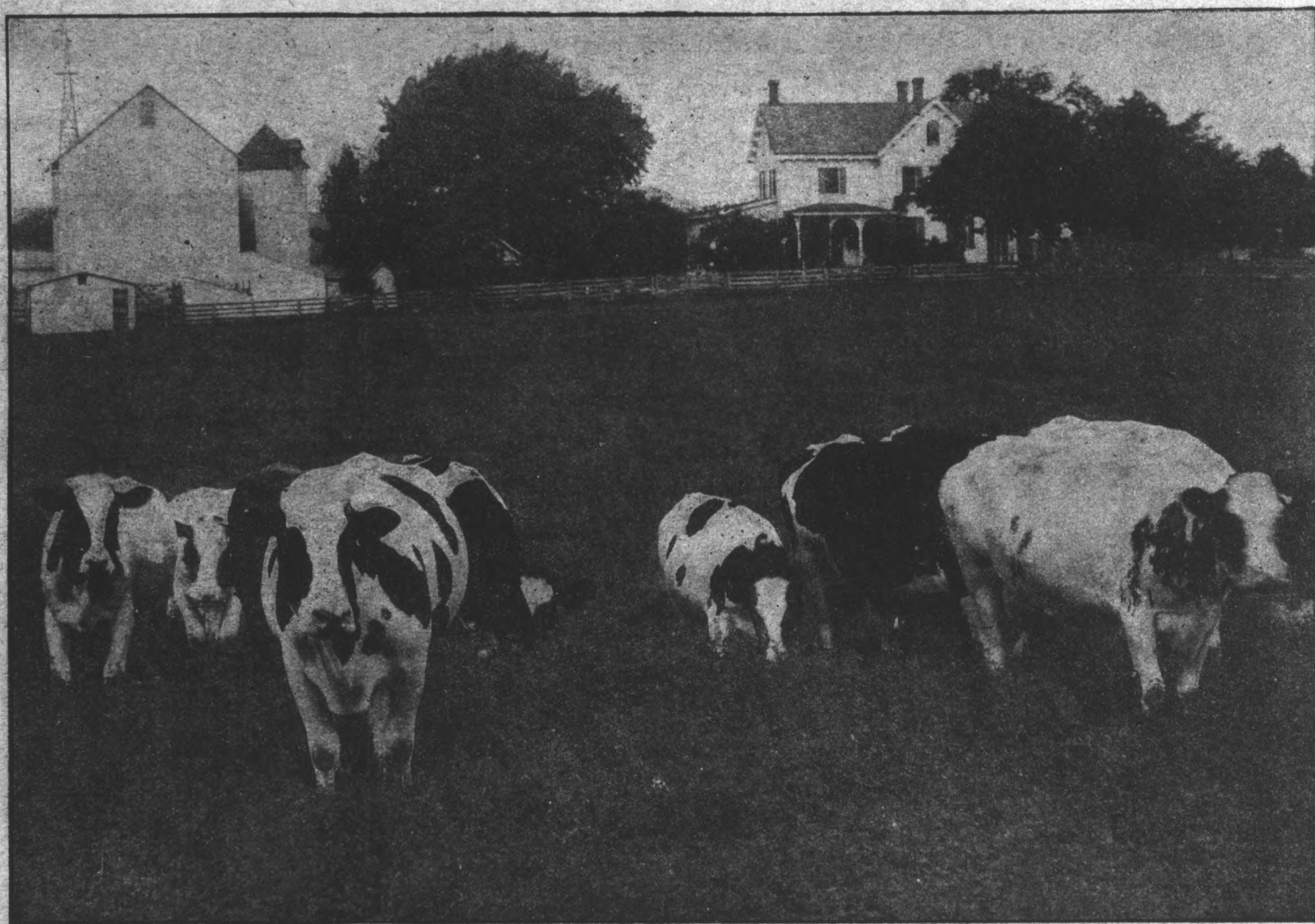
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What Will Congress Do for Agriculture?

THE headquarters of the several farmers' organizations at the National Capitol are just now centers of unusual interest. At these offices one comes in contact with some of the agricultural leaders, men whose names are familiar to farmers in all parts of the country. These leaders are holding conferences, attending hearings before Congressional and Senate committees, and doing their level best to promote the interests they represent. The farmers' organizations are not asking for class legislation nor special privileges. What they want is equity before the law, and are doing their best to see that they get it. They need the active support of the men on the farms, and to that end The Michigan Farmer has arranged to have a special representative at Washington to keep its readers informed on what these leaders are doing.

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DETROIT, JANUARY 24, 1920

CURRENT COMMENT

An Agricultural Program

A DEFINITE agricultural program is deemed to be the need of the hour by all who have given serious thought to the conditions which now obtain. There is, and perhaps fortunately, not the same unanimity of opinion as to what the program should be. The great majority of leaders of agricultural thought who have given years of effort to the study of agricultural conditions and needs are of the opinion that a sound business program is the greatest need of American agriculture at this time. The ideas of two men, who are well known for their devotion to the cause of agriculture, on this subject will be found expressed elsewhere in this issue. We refer to the address prepared by Dean Davenport, of the Illinois College of Agriculture, for the annual meeting of the Illinois Agricultural Association, held last week, and the address of Colon C. Lillie, president of the Michigan Improved Live Stock Breeders' and Feeders' Association, before the annual meeting of that body. These addresses represent not only the personal views of the two men who gave utterance to them, but give fairly accurate reflection to the ideas of a large element of thinking farmers in their respective states. There are, of course, a great variety of opinions as to the details of the needed program for agriculture, but there is, fortunately a medium through which these can be reconciled or compromised into a definite program which will be acceptable to the thinking farmers of the country and which will be a constructive force in the development of such a program. Even in its present incomplete status of organization the American Federation of Farm Bureaus is a better vehicle for the development and advancement of a constructive agricultural program than any or all other farm organizations, which in many ways are working at cross purposes in the present emergency.

Unfortunately, perhaps, the nature of a desirable agricultural program is not more a point of issue between different factions and their leaders, than is the method of operation to secure its adoption. While one school of thought advocates a business program conducted in a business-like way, with a suitable promotion of needed education and desirable legislation on a business basis, another and opposite school of thought seeks a political program with political influence as the club with which to secure class advantage in a legislative maelstrom which ever in-

volves compromises and undesirable complications.

Probably a measure of both ideas would best meet the present emergency. Certainly an equitable proportion of honest and competent farmer representation is desirable in both state and federal governments. Such a representation could aid materially in effectively carrying out a sound and sane agricultural program which would be beneficial to the country at large as well as to the industry directly interested, and this is the only kind of program which can succeed on its merits and give agriculture the permanent stability which is essential to the continued prosperity of the country as a whole. But such a program must be formulated on a business rather than a political basis and without consideration for political combinations or ambitions which are certain to seek advantage through this medium.

Right at the beginning the farmers of the state and country must determine this point of policy in launching an agricultural program. Much of the success or failure of such a program will depend upon whether it is based on sound business principles or upon paternalistic ideas looking toward class favoritism. The safe and logical course would seem to be to develop a sound business program, then further it by all fair means at our command. Such a program with the united backing of the farmers of the state and country will succeed in spite of political opposition or combinations, while even an equally good program based on political or other class alliances at the beginning would be more than likely to be "denatured" in its accomplishment if it escaped being made the football of the politically ambitious.

This is a proposition worthy of the serious and sober thought of every farmer, to the end that there may be a crystallization of progressive agricultural thought emanating directly from the farms of the country rather than from those who seek to express as well as to mold rural thought in the present emergency.

Michigan's Live Stock Industry

THE heart-throb of a progressive live stock husbandry was vividly exposed at the twenty-ninth annual meeting of the Michigan Improved Live Stock Breeders' and Feeders' Association at East Lansing last week. The pulsings of a better system of breeding and feeding, and a more highly organized production were sensed in every turn. The future of agriculture in Michigan is in its live stock, and human skill is being systematically directed toward the betterment of man's farm companions and their surroundings.

Despite the necessitous encroachment of the war-time system of farming upon the cultivable area of the state, there remains a large and stable number of milk, meat, wool and power-producing animals within its borders. The dairy industry has steadily increased the value of its herds and products, due to the demand of numerous populous cities for milk, and the efficient organization for the sale of its products. In recent years there has been a marked revival of popular interest in sheep, and flock husbandry is decidedly on the upgrade at present. There has also been a return on the part of hundreds of farmers, favorably located, to the production of beef on grass, plus grain and purchased by-product feeds. Alfalfa, clover and other legumes, in addition to forage crops are extensively grown, carefully saved and frugally used. Although trucks and tractors are being widely introduced, the topography of the land and varying types of soil will always require horsepower to plow and cultivate a large percentage of the land if economical net results are considered. It

is to this fact, now appreciated by many Michigan farmers that the spreading popularity and distribution of improved draft horses in the state may be attributed. The improvement in the quality of horses kept on the farms of the state proves conclusively that better horses are essential to the profitable use of farm land in all parts of Michigan.

In organization and community work the state is beginning to excel. The live stock shipping associations, the county breeders' associations and the boys' and girls' pig and calf clubs are having a quantity as well as a quality influence on production, and the enthusiasm exhibited at the various breed association meetings last Wednesday testified to the widespread nature of those undertakings, and indicated in a convincing manner the progress made along live stock lines.

Representing the Farmers

RIGHT now we are at the height of the open season for the great indoor sport of representing the farmer. And this competition in representing him by real and near and would-be leaders of agricultural thought is representing the great mass of American farmers to be both for and against various important legislative programs now pending. Depending upon which of these "official" interpreters of rural thought may have last or most successfully held his attention any conscientious member of congress, not in close personal touch with a rural constituency, might possibly rate the farmers of the country as a constructive force which will steer a safe course for the nation between the conservatism of capital and the radicalism of labor, which is undoubtedly the role which the farmers of the country will play when their real sentiment is crystallized into forceful expression. And again he might as easily deem the farmers as radical as the type of labor leaders who advocate the nationalization of industry, or other types of state socialism.

To the end that our readers may become familiar with this special representation in their behalf at Washington and elsewhere, we are publishing a series of articles by our Washington correspondent, which will discuss in an impartial way the various official agricultural spokesmen who are located in the national capitol and the manner in which they are representing the farmers of the county. The first of these articles will appear in the next issue.

But this work of "representing the farmer" is not all done at Washington. Some of it is given "local color," seemingly for greater effect. The farmers of Michigan have recently been represented in this manner by a bunch of some fifty labor leaders and a half-dozen others who "represented" the farmers of Michigan, but not one of whom makes his livelihood from the farm, who "instructed" the Michigan delegation in congress "to introduce immediately and to work unrelentingly for the prompt enactment of legislation making mandatory a two-year extension of government operation of the railroads from March 1, 1920."

Possibly this may be in line with agricultural sentiment in Michigan, but we fancy there are a lot of farmers in the state who were not acceptably "represented" by this aggregation of labor leaders and their allies at the Detroit meeting, leading as it apparently does, toward the Plum plan of operation, which has already been favored by labor organizations and leaders. Incidentally, we are advised that the "official" representatives of agriculture at this meeting have arranged to bring Mr. Plum to Michigan to expound his doctrine, which has rapidly expanded from a plan for the government operation of the railroads to a plan contem-

plating the nationalization of all industry. Whither are we being led by this type of farmer representation? Echo answers, whither?

News of the Week

Wednesday, January 14.

AMERICAN expeditionary forces in Siberia are to be withdrawn at once.—The blockade against Germany in the Baltic is lifted by the Allies.—An amendment to the water power development bill before the United States Senate to exempt the St. Lawrence and Niagara rivers, is defeated.—Rioting in Berlin is met by government troops using machine guns.—The coal strike settlement commission starts actual work at Washington.

Thursday, January 15.

NORTHERN Michigan digs itself out of a three-day blizzard with rail service being generally re-established over main lines.—It is estimated by the secretary of state that there will be over 400,000 automobiles licensed in Michigan this year.—The United States Senate judiciary committee urges legislation looking toward the prevention of lynching and race rioting.—The work of returning the bodies of United States soldiers who fell on foreign battlefields, to this country, is started by service men who are already working in Belgium.—Federal prohibition inspectors are charged with inspecting fruit juices and cider containing more than one-half of one per cent of alcohol.—Girl scouts of America now number 60,000.

Friday, January 16.

THE first meeting of the League of Nations is called at the French Foreign Office in Paris, with delegates from France, Great Britain, Italy, Belgium, Greece, Spain, Japan and Brazil present.—Premier Clemenceau withdraws his name as a candidate for the presidency of France.—Allies complete their note to Holland asking for the extradition of the former German kaiser.—Great excitement accompanies the elections in 126 boroughs and urban council areas of Ireland.—Great Britain is becoming alarmed over recent advances of the Russian reds toward the boundaries of India, Persia and Mesopotamia.—Haytian bandits are repelled by U. S. Marines.—Officials of the Irish republic protest against the authority of the League of Nations.

Saturday, January 17.

THE French assembly elects Paul Deschanel president of France.—The United States steamer Buford arrives at Hango, Finland, with 249 undesirable aboard to be deported to Russia.—A threatened alliance between the bolsheviks of Russia and the Mohammedan hordes of Asiatic Turkey is claimed to be forcing the allies to move for peace with the Lenine government.—Allies send note to Holland demanding former Emperor William.—Silk mill workers in Patterson, N. J., refuse six per cent raise in wages, and walk out, their demands being for a fifteen per cent advance.—Present retail sugar prices are too high, according to beet sugar growers of St. Clair county.

Sunday, January 18.

QUIET has been restored in Berlin. Senator Lodge rejects all proposals for modification of his reservations to the peace treaty.—Belgium is asking bids on the construction of 18,800 railway cars.—Japan reports to China that she is ready to begin negotiations for the return of Shantung to the Peking government.—Bolivia makes the United States gold dollar legal tender.

Monday, January 19.

A SEVERE blizzard prevails over Michigan and New York state, disrupting traffic generally.—A bill placing workingmen's councils under government control is passed by the German national council.—Six American vessels are in peril off the New England coast as the result of heavy seas and in one of these forty-nine persons are reported lost.—Elis L. Dressel, acting commissioner and charge d'affaires of the United States, arrives in Berlin to take charge of American interests.—The Bulgarian peace treaty is ratified by the national assembly at Sofia.—Public health officials at Washington report only about 1,000 influenza cases as compared with 4,000,000 cases a year ago, besides the present attack is of a mild type.

Tuesday, January 20.

BOLSHEVISTS are rushing a large army toward the Poland frontier.—Over 271 passengers are taken from the transport Powhatan, disabled two hundred miles off the Halifax coast.—Germany names envoys to neighboring countries.



Farmers' Interests at Washington

Elmer E. Reynolds Our Special Representative at the National Capitol Tells of the Progress Being Made in Legislation Affecting Agricultural Interests.

THE farm organization headquarters in Washington are just now centers of unusual activity. At one or the other office of the farmers' representatives any week day one may meet farm leaders, men whose names are familiar to farm paper readers, from all parts of the country. They are here holding conferences, attending hearings before congressional and senate committees, and doing their part to promote the interests they represent.

Collective Bargaining.

The Capper-Hershman bill giving farmers the right of collective bargaining in the sale of their products, is one of the really big measures before congress. This bill originated with the National Board of Farm Organizations of which Charles A. Lyman is secretary, and is being vigorously pushed to the front by this organization. The bill is not class legislation, as has been claimed by certain papers whose editors are evidently unfamiliar with anti-trust legislation. It guarantees to the farmers the same rights in trading now enjoyed by other classes. The farmers are not asking for special privileges. They want equality before the law, and the National Board of Farm Organizations is doing its best to see that they get it. There are strong probabilities that the bill will become a law this session, but it needs the active support of all the organized farm forces.

Bills to Control Packers.

Packer legislation continues to hold an important position in the activities of congress. Hearings are being held before the senate committee on agriculture at which the interests for and against rigid government control of the packing industry are having their innings.

At a hearing, the other day, a representative of the Federal Trade Commission gave some strong evidence showing that several of the so-called stockmen witnesses in opposition to packer legislation were either in the employ of the big packers or their expenses were paid by the packers, and their testimony was prepared before hand by representatives of the packing interests in Washington.

The Anderson-Kenyon bill, now in the discard, was an advanced step in packing-house legislation. In many respects it was drastic, nevertheless those who took the pains to dissect each paragraph and study its provisions claim that it contained loopholes enough to defeat the purposes of those of its supporters who actually desire effective control over the packing business in the interest of both the producers and consumers.

At the suggestion of Senator Gronna, chairman of the Senate Committee on

Agriculture, Thomas C. Atkeson, Washington representative of the National Grange, has prepared a bill which is a revision of the Anderson-Kenyon bill with changes that in some respects, it is believed, will be less objectionable to the packers, but make the act more effective and more nearly meet the intentions and demands of the farmers and stockmen, and all others who are interested in securing legislation that will be fair and just to all interests.

A new bill known as the Kenyon bill which embodies the essential provisions in the Grange bill, has been introduced in the senate.

The old Anderson-Kenyon bill provided that no person engaged in the business of slaughtering live stock or preparing live stock products for sale,



or of marketing live stock products as a subsidiary of, or an adjunct to any such business, could engage in or carry on any business in commerce of buying, selling or shipping live stock for slaughter, or live stock products, unless he secured and held a license issued by the secretary of agriculture; that the provisions of this act should be enforced by a commissioner of foodstuffs, appointed by the President, by and with the advice and consent of the senate.

This act would have placed the packers under the absolute control of the secretary of agriculture. It made him the autocrat of the industry with powers not consistent with our American democratic ideals. He could make such rules and regulations as were necessary to carry out the purposes of the act, could cooperate with any department or agency of the government or of any state or political subdivision thereof, or with any person, and take any action or commence and prosecute any proceeding not inconsistent with the provisions of the act, which the Federal Trade Commission is authorized to make.

Under the Anderson-Kenyon act whenever the commissioner of foodstuffs believed that any licensee was violating any provision of the act, the secretary of agriculture could summon the licensee to a hearing and if he found that the provisions of the act had been violated, he could suspend the license for such period as he might prescribe, or could revoke it within not less than thirty days' notice.

The licensee, however, could appeal

to the circuit court of appeals, and the court might affirm or set aside the order of the secretary of agriculture, if it was shown that the order was unsupported by evidence. If the licensee lost his license the court could appoint a receiver to conduct the business.

There were possibilities in this bill for unfair advantages to be taken by both the secretary of agriculture and the packers. The packer might have his business taken entirely out of his hands under a receivership, or be allowed to conduct his business and follow the same wrong practices that brought him into disfavor with the commissioner of foodstuffs during a long period of litigation.

The new Kenyon bill has eliminated these possibilities. It admits of no

such uncertainties. Instead of compelling the packer to take out a license, it establishes a registry system. It provides that there shall be appointed by the President, by and with the consent of the senate, a Federal Live Stock Commission, to be made up of three members. Not more than two of the members may be affiliated with one political party. The commission shall enforce the provisions of the act and the rules and regulations which they establish in pursuance thereof. No commissioner shall engage in any other business, vocation, or employment, or be directly or indirectly interested in the business of any packer or operator. Any commissioner may be removed by the President for inefficiency, neglect of duty, or malfeasance in office.

The commission will have the same obligations, duties and rights as are conferred on the Federal Trade Commission, and will have the powers and duties heretofore exercised by the Bureau of Markets in the Department of Agriculture relating to the acquisition and dissemination of information regarding the production, distribution, and consumption of live stock or live stock products.

Under the Kenyon-Grange bill the packers are brought under strict regulations as to their practices and commercial transactions and connections. They cannot engage directly or indirectly in the business of buying, manufacturing or selling foodstuffs other than live stock products, where the effect may be to lessen competition or tend to create a monopoly. They can-

not combine or agree with any other packer to apportion territory for carrying on business or to apportion purchases or sales of any live stock, or live stock products, or to control the prices thereof, or do anything to prevent any other person from carrying on a similar business.

After two years from the date when the act becomes effective no packer shall own or control or have any interest in any stockyard. The records of the packers are to be open for inspection by the commission at any time and must be verified under oath, if requested by the commission to do so.

An order requiring a packer or operator to cease and desist from violating any provision of the act shall be final unless within thirty days after service upon it the packer appeals to the circuit court of appeals asking that the commission's order be set aside, together with a bond in such sum as the court may determine, conditioned that the packer will pay the costs of the proceedings. But no such order of the commission shall be set aside by the court unless shown that the order is unsupported by evidence.

Any packer or operator who neglects or refuses to obey any order of the commission shall be guilty of a misdemeanor, and on conviction, shall be punished by imprisonment for not less than six months or more than five years, or by a fine of not less than \$500 or more than \$10,000, or by both fine and imprisonment.

There is no licensing of packing plants required in the new bill, but the commission may, upon application, issue to the applicant a certificate of registration to engage in the business.

The Anderson-Kenyon bill provided that no carrier subject to the provisions of the act should after the expiration of six months from the date the act took effect, employ in commerce any refrigerator car or special equipment cars for the transportation of fresh meat or perishable foodstuff, which are not owned or controlled by such carrier except upon the conditions that they may be furnished by the carrier to any person making reasonable request for such cars; under such arrangements as to just compensation as may be made between the carrier and owner of such cars, with the approval of the Interstate Commerce Commission.

The new bill leaves with the Interstate Commerce Commission the duty of prescribing rules for the transportation in commerce of common carriers by railroad or refrigerator cars.

The promoters of the Grange or new Kenyon bill do not claim that it is perfect in every detail. But it is the latest development in packer legislation.

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The Farm Bureau and Its Job

By Eugene Davenport

THE Farm Bureaus and their federations, state and national, constitute at once the most progressive, the most rational, the most representative, and the most powerful organization ever devised by farmers.

It is naturally progressive because founded upon a federal act looking to the improvement of agriculture and of country life by means of definite machinery for insuring that the results both of science and of experience shall find their way onto the farms of the nation and into the homes of the country with the least delay and to the greatest extent possible.

This organization is rational or ought to be, because it is founded and officered by the best and sanest individuals of the profession, not by the most radical, as is too often the case, especially with organized labor.

It is representative because it is nation wide, reaching down to the actual man on his actual farm. And it is powerful because it will soon represent the combined strength as well as wisdom of at least a fourth of the farmers of America. And this group besides its agricultural significance comes nearer being typically American than does any other organized and numerous body of citizens. Its opportunities, therefore, are beyond computation and its responsibilities are correspondingly heavy. No such body of citizens belonging to a necessary industry dare go wrong if it can help it, and yet some of its dangers lie in its very strength, in its representative character, and in the consciousness of its power.

It is a hard time now for any of us to live and keep our heads well enough to be sensible most of the time. It helps some to be reminded that the conditions under which we just now find ourselves are but the usual aftermath of war, and that every people who fought has been through them. But it is cold comfort at best. It may account for our troubles, but it does not settle them. It is like putting the patient off with a diagnosis when what he wants is treatment and to get well.

It is therefore a hard time for a new organization to be born, get upon its feet and find its job without having its energies diverted in the wrong direction and wasted upon things of seeming importance because temporarily irritating but after all no part of permanent progress. Speaking bluntly, we are so irritated now by the temporary but unaccustomed difficulties that beset us, that it is almost impossible to avoid the temptation to use this vast and powerful machinery for small business, even for unworthy purposes, forgetting that its great business is the development of agriculture in the very best sense of the term, and that so far as this great job can be accomplished our troubles will disappear automatically, at least so far as they can be resolved, for nothing on earth is one hundred per cent perfect.

I say that the temptation to misuse an organization such as this, especially at a time like the present, is almost irresistible. Suffering under limitations and hardships of one kind or another in which the individual finds himself powerless, why should not the farmer use his organization as others are using theirs for securing relief by the most direct and effective means? Simply because if we use our best ma-

chinery for assault and battery we shall find it spoiled for the later and more permanent, as well as more important, work of constructive development. As the farmer well knows, many a good monkey wrench has been spoiled in using it for a hammer.

It may as well be written down as axiomatic that if this great organization is to do the work that needs to be done in and for agriculture now, it must never lose its temper and it must never lose the respect of its associated industries and interests. Not opposition and fighting, but conference and constructive planning must character-

Prices are high for four very good reasons. They are: 1. The greatly increased currency, nearly doubled in four years, enough of itself to account for all that has happened. 2. Reduced production, which was inevitable when something like one hundred million men and women stopped producing not only luxuries, but also necessities, and began the business of wholesale destruction. 3. A wild saturnalia of extravagant buying in which nothing is too gorgeous or too costly to suit us. 4. Speculation. The last is also the least by far, and yet it is the only one we talk about, and we are going out in

not far ahead, and all the forces of society will be unable to stop it if exerted too late.

The first step in return to normal—not to pre-war conditions which we shall never see, but to normal—is to produce more of the necessities and to direct more labor away from luxuries, which will be done only as we refuse to buy luxuries while necessities are scarce. The next step is to reduce the volume of the currency or else to make it good by production, and this will come about only as we pay our debts and get really solvent again. Let this association be not deceived in the fundamentals of plain economics.

Cost Plus.

In the stress of war when results, not expenses, were the overpowering consideration, government contracts were let at the cost of production plus a guaranteed profit. There seemed no other way to do and no doubt the situation justified the expediency, although it led to the worst profiteering in labor that the world has ever seen, for, while our best Americans were taken from their families and their business and put into the mud to fight for thirty dollars a month, those who were left behind—aliens many of them—demanded and got five, ten and even twenty dollars a day, slept under a roof every night, and were getting ready to strike for a six-hour working day and a thirty hour week.

What was infinitely worse in the long run, this cost-plus-idea got into the very fibre of our national consciousness until we are coming to regard it as a kind of axiom that does not admit of argument. The laborer insists that his wage shall be increased in full proportion to the rising cost of living, and without analyzing what that living shall be or taking any responsibility for its rational management he proposes to throw the whole burden upon society and enforce his demands by the full power of his organization, to hold up the world until it will accept the obligation of caring for him without his assuming responsibility in the premises. This attitude, if continued far will wreck the world and turn civilization back until it reaches the cave again.

Even farmers are succumbing to the same fallacy and are beginning to assume that the market price should guarantee the cost of production with a profit. Have we thought this thing out? The cost of production is one thing on A's farm; it is another on B's. It is one thing in Peoria county, Illinois; it is another in South Dakota or in Massachusetts.

Not only that; the cost of production is one thing at a given scale of intensity, and it is quite another at a different scale either more or less intense. For example, when the Chicago Milk Commission refused the dairy-men's request the farmers did the only thing possible; that is, cut out the less efficient producers, cut down the feed on all of them, and so lowered the cost of production to a point that would at least minimize the loss.

To say that the market shall guarantee the cost of production plus a profit and leave it to the producer to fix the scale of production is to flood the world with products that nobody

(Continued on page 122).

Farmers' Week Feb. 2nd to 6th

Here are some of the Farm Organizations which will hold meetings at the Agricultural College during Farmers' Week:

- The Michigan State Farm Bureau.
- The Michigan Milk Producers' Association.
- The Michigan Crop Improvement Association.
- The Michigan Potato Growers' Association.
- The Michigan Veterinary Association.
- The Michigan Maple Syrup Makers' Association.
- The Michigan Muck Farmers' Association.
- The Michigan Milk & Dairy Inspectors' Association.
- The Michigan Branch of the American Poultry Ass'n.
- Conference of Rural Y. M. C. A. Secretaries.

And that no progressive farmer can afford to stay away from the sessions of "Farmers' Week" is shown by this partial list of speakers who will give of their best to aid in the promotion of a better agriculture for the state:

- Governor Frank O. Lowden, of Illinois.
- President G. C. Creelman, of Ontario Agricultural College.
- Dean Alfred Vivian, of Ohio State University, with his famous farmers' lecture tour around the world.
- Cecil Roberts, well known English poet and war correspondent who is now speaking in America for the first time.
- H. J. Howard, President of the National Farm Bureau, and leader of first nation-wide movement toward the economic organization of farmers.
- H. C. Taylor, the new Chief of the Farm Management Bureau at Washington.
- Kenyon L. Butterfield, President of Massachusetts Agricultural College, author and noted authority on agricultural problems.
- Dr. C. V. McCollum, Nutrition Expert from Johns Hopkins, whose experiments should be understood by every progressive dairyman of the state.
- Henrietta W. Calvin, Bureau of Education, Washington.
- A. F. Lever, Member of the Farm Loan Board, an ex-congressman who has been responsible for much of the recent legislation toward country life improvement.
- A. J. Kiernan, Chief Tuberculosis Eradication, Bureau of Animal Industry, Washington.
- Dr. G. W. Gunsaulus, President of Armour Institute of Technology, scholar and lecturer.

ize the methods of this association which is altogether unique among masses of men. For our object is development of a great national industry and mode of life, not simply protecting the rights of a certain group of citizens, which are already guaranteed under the law, and certainly not to gain an advantage over our associates.

So important is all this, especially under present conditions, that a few examples may not be out of place by way of concrete illustration:

The High Cost of Living.

We are all fussed up over the high cost of living. I do not say that this association should be indifferent to the facts, but I do say that it should understand these facts and not waste its energies and reputation as most people and organizations are doing, by fighting the air.

our fur coats and diamond rings and new wrist watches to punish the profiteer. We are going to run him down with that new automobile we have waited a year to get, forgetting that in nine cases out of ten or more, this same profiteer is doing just what we are doing—namely, the best he can in a difficult situation.

Punish the profiteer? Certainly. But the ordinary machinery of the government is competent to do that. Most of what has been accomplished will in the end do more damage than good. Our organization exists for other purposes, and its business is to teach economy and productive thrift as the only way out of an almost impossible predicament; for if this wild revel in luxury goes on much further with constantly increasing wages and decreasing hours of work, a financial crash is



Does Your Farm Need Tile?

Mr. Weir Has Discovered Many Types of Land, Usually Considered As Not Requiring Drainage, That are Greatly Benefited Thereby.

THERE is in Wisconsin at least one man who has been thoroughly convinced of the benefits of tile drainage and of the possibilities in marsh land development. This man had several acres of marsh which he considered at one time worthless, because he was frequently told that it had no value, and the actual returns from that low land were to him clinching arguments of its worthlessness. However, our friend was open minded. He came to look upon his non-producing land, not as a piece of ground useful merely in holding the earth together, but as land having, perhaps, some possibilities. Knowing that the marsh was too wet for cultivation, he became curious as to what the soil would do if it had at least half a chance. This thought prompted a unique experiment. He dug a hole about three feet by eight feet in a nearby field and filled it with peat taken from the lowland. In this transplanted peat he planted two hills of corn. The results were most surprising—"such wonderful corn!" Said he: "When I looked at that corn and then at that worthless land below, I said to myself 'Here, you, peat, I'll drain you.'" He did, and he's proud of his accomplishment. Why shouldn't he be? He exercised the power any farmer has to make wet land productive.

Wanted—More Faith in Tile.

Those who oppose drainage, especially tile drainage, argue very much along the same lines. These arguments, furthermore, are based on observed facts. For example: When a ditch is dug to give an outlet to a marsh tract or a swamp area, the wild grasses often disappear, and the tamarack, if any, gradually dies. The argument: A certain amount of drainage proves harmful, because the tamarack and wild grasses die. If an open ditch, which affords insufficient drainage, causes the natural marsh vegetation to die, what will tile, which is supposed to give good drainage, do to the land? If tamarack and marsh grass can't grow because of drainage, how can corn and other cultivated crops be made to grow? The observed facts are correct, but the interpretations given are wrong.

Marsh vegetation develops shallow root systems. When the marsh is drained, the surface soil dries out sufficiently during the summer to leave the surface roots high and dry. The tamarack and marsh grass die for want of water—that is true, but the shallow roots were developed when the land was wet. If these roots extended deeply, no such drying out would take place. Roots which develop in a well-drained soil go deep. When dry weather comes on, the deep roots are able to secure sufficient moisture. It is thorough drainage during the early growth that counts.

Open Ditches Are Not Sufficient.

In most cases a good outlet ditch through a marsh seems to provide adequate drainage. The temptation is to crop the land before tile is considered. Too of-

ten the conditions are such as to encourage cropping, but not to ensure the crop. In all cases tile is needed to provide under-drainage. Without under-drainage corn turns yellow and refuses to grow. Grain either turns yellow or becomes choked with smartweed or some other kind of weed. Sugar beets grow stubby and rooty and without the characteristic taper.

In a private enterprise we are developing a one-thousand-acre tract. It has a splendid open ditch with laterals and plenty of fall. The temptation is strong to crop much of it without tiling. This one thing is sure, however, no cropping without tile, absolutely none, on areas where the subsoil shows any signs of being overly wet. It doesn't

are growing wire grass, do not think that tame grass will thrive under similar conditions. A dry season may give you the encouragement to start transforming a wild pasture into one of alsike clover, timothy and red-top. But without tile, the tame grasses cannot compete with the marsh grasses. Soon again you will have a pasture of waving wire grass or of sedges. If you want the better grasses you must tile.

Tile in Wet "Draws."

Frequently a single line of tile is all that is required to drain a narrow strip of land. A wet "draw" between two areas of high land should be given more careful consideration. In most cases of this kind the damaging water is that which seeps from the up-

land, but to determine why the tile did not do its duty. In every case I found the lines of tile (laterals) extending straight up to the high land—no provision having been made to catch the seepage. Tilers are realizing more the importance of laying a line of tile at the foot of the upland to catch the seepage before it has a chance to do any damage. Such a line of tile is usually called a "cut-off."

Tile Needed on Some Slopes.

It is a common opinion that tile is only for low lands. On such lands it is easy enough to suspect the need of tile; but when it comes to sloping fields, too often the need of tile is entirely overlooked. I shall cite a typical example.

The owner of a southern Wisconsin farm desired a farm examination. His problem centered on a sloping field, the corn on the lower one-third of which was very poor. The owner told the history of that field in this manner:

"My father always had trouble with that field. It always grew good grain and hay, but the corn never would grow on the lower portion. Father tried heavy manuring but no results. He turned it into a hog pasture, thinking that would remedy the defect; but when corn was again planted, the same poor crop was the result. For years I have tried to discover some remedy, but I have failed."

I visited the field early in July. In going over the field, one would never suspect the need of tile—but an examination of the subsoil told the whole story. It was seepage water that caused the trouble. Just enough seepage water came down from the land higher up to keep the subsoil to within eight inches of the surface wet and cold. Corn is very sensitive to such a condition, and corn could not be made to grow even though the land was heavily manured.

There is only one remedy for such a condition, and that is tile. One line of tile laid to catch this seepage water is all that is necessary. Yes, tile a hill-side when tile is needed.

Those Peculiar Poor Spots.

Very often in corn fields, small areas are found on which corn fails. These spots usually consist of the same soil as the whole field and have the same uniform slope; but the subsoil is soggy and cold. Here again seepage water has a chance to collect in sufficient amount not to wet the surface but to keep the subsoil in local areas too wet and cold to favor the development of the corn roots. Such spots should be tapped with tile.

Standing Tile On End.

Very often water standing in upland depressions and on certain flat upland fields may be given a chance to run away by making openings through the tight subsoil to permit the water to flow downward into an open and dry stratum below, if such a sub-stratum is to be found. This is called "vertical drainage," and the openings "vertical drains."

The common vertical



Determining Drainage Possibilities.

pay. I have seen too many crop failures because of such a condition. A wet, soggy and mottled subsoil is a good indication that tile is needed. A good way to eliminate guesswork and to be sure of the need of tile is to dig a few post holes about four or five feet deep in the questionable areas, and note the height of the water in them after twelve hours or so. A good time to dig these holes is about seedling time. If the water comes within three feet or less of the surface, the land needs tile.

Tame Grass vs. Wild Grass.

Did you ever see wild marsh grass growing on well-drained cultivated fields? Why not? It's a question of adaptation. This matter of adaptation works both ways. When low wet lands

land. Proper drainage consists in laying two lines of tile, one at the foot of each slope. These should be laid deep enough to catch the seepage. This brings out the secret of how to drain properly. It is this—before any plans are laid for drainage, determine first why the land is wet. One line of tile in the center of a "draw" made wet by seepage from the upland on either side can never give adequate drainage.

The "Cut-off."

All marsh and swamp lands are bordered by upland. Out of the upland usually comes seepage water. This explains why the marsh zone bordering the highland is generally the wettest part of the marsh. I have been called upon frequently to examine such areas even after tile were laid—not to ob-



Barley Grown on Equal Areas of Untiled (Left) and Tiled (Right) Heavy Clay Land.

drains consist of ordinary drain tile placed in the ground vertically, end on end. All wet depressions cannot be drained in this manner. The only conditions under which vertical drains can possibly work are: (a) a porous or gravelly stratum should underlie the area to be drained, and (b) that stratum should be dry to enable the drainage water to escape.

Tile Do Not "Draw" Water.

It is a mistake to think that good under-drainage by tiling is harmful in any way, particularly in dry seasons. Tile drains cannot "draw" moisture out of a soil, nor can they drain land too thoroughly. All water that can drain out of a soil is harmful to crops. The moisture that crops use is that which

is retained by the soil after all free water is allowed to drain out. The tile simply provides a means for the draining or excess water to drain away.

Benefits of Tile Drainage.

It is well to keep in mind the specific benefits to be derived by tiling wet lands.

Soils warm up better, because the air can enter, and the warm spring rains are given a chance to percolate through the soil. On wet lands practically all of the heat of the sun goes to evaporate moisture. This explains why a wet soil is a cold soil.

Thorough tile drainage causes roots to grow deeper and stronger. It is true, too, that crops are able to secure more moisture in a well-drained soil than a

wet soil, because of the deeper and stronger roots.

Tiling favors the development and activity of the helpful soil bacteria, such as the nodule bacteria of legumes.

The drainage makes available a greater supply of the elements of plant food.

Good drainage favors better farm management. The farm as a whole can be managed more profitably, cultivation is made much easier, square fields are made possible, crops can be planted earlier and better, fall frosts are delayed, and everything in general is not hampered in any way by too wet fields.

On many fields the increase in crop following tiling paid the cost of the

drainage. The following are typical examples of what others have done:

Forty acres which grew willow brush was tiled at a cost of \$1,000. Now the land grows most excellent corn.

On a ninety-acre farm, sixty of which were poor pasture, a thirty-acre field was cultivated, but most of the crops were failures. The cost of tile drainage was \$2,200. As a result, the pasture has been improved three hundred per cent and the thirty-acre field now grows excellent grain.

A two-hundred-forty-acre tract was of little value for pasture, and it produced no hay. Tiling cost \$2,360. Now splendid crops of hay and grain have been grown since drainage. The value of one crop offset the cost of the tiling.

The Future of Agriculture

Address of Colon C. Lillie, President of the Michigan Improved Live Stock Breeders' and Feeders' Association at the Annual Meeting at M. A. C.

WE meet today, more than a year since the close of the world war, with an uncertain future for the live stock industry and, in fact, for all agriculture, before us. More uncertain, perhaps, than ever before in history. To be sure, the future of all business is uncertain. The whole business world is trying to solve the problem as to its status when the after-the-war normal conditions have been found. Some are talking about getting back to pre-war conditions as though that is the condition desired, or believing that pre-war conditions must of necessity eventually come back, sooner or later.

But, my friends, pre-war business conditions never will come back. The whole American business world, including agriculture, at least has gone a step or it may be several steps, forward and America never turns back. The idea of never retreating is what brought Germany to her knees much sooner than most of us expected. The boys in khaki refused to obey the French commander in the second battle of the Marne when "fall back" was ordered. "We never retreat," was a new slogan in the world war and it inspired not only our own army but the armies of the allies as well and, more, it inspired the people back home, the people of France and Great Britain and of Italy, with the result of the forward drive all along the front, which never stopped, never faltered, until proud, arrogant, conceited Germany begged for peace.

Important advancement has come to agriculture by means of the world war. A great, just, business principle has been applied to agriculture, and now it is up to the farmer to see that there is no "falling back"—no "retreating"—no return to pre-war conditions, so far, at least, as agriculture is concerned. Agriculture will intrench and fortify on this advantage ground. Trenches are already being dug and fortified and some are now dug, that will resist all encroachments to force agriculture back to pre-war conditions. The farmer does not want low prices for food products, even if prices of everything should go down with food products. The farmer sells more of human necessities than he buys and if he prospers, he must get more for the things he sells than he has to pay for the things he buys.

The Forward Step in Agriculture.

Whoever heard, before the war, of the commercial world, or the consuming public or the government itself advancing the idea, or even admitting it, that the farmer is entitled to "cost of production" plus a profit. When the time came that the world needed the farmer as much or more than it did the soldier, then economic justice was advocated. But it was advocated then rather to prevent excessive profits than to establish economic justice. The

price of wheat was fixed at \$2.20 per bushel, figuring on a cost and profit basis, not to guarantee the farmer what justice entitled him to, nor to protect him from loss, as in other business, but to prevent him from making too much profit. The same can be said of the attempt to fix the price of other food products.

However, the farmer rejoices rather than complains of this treatment, because it establishes an economic principle applying to agriculture as well as to other business. I have said before that when the President of the United States appointed that committee representing all classes of citizens to fix a price for wheat based on the principle of cost and profit that the world war would prove the salvation of American agriculture. The great court of public opinion, the consuming public, does not and will not object to paying the farmer a decent profit above cost for the food products which they must necessarily consume. The consumer will

not stand for profiteering but he will willingly pay a just profit.

Determining Cost of Agricultural Products.

You are well aware that the success of any business eventually depends upon being able to determine to a very close approximation, at least, the net cost of production. This is no simple matter in agriculture. The business is very complicated and very uncertain. One man may make a splendid profit in fattening a bunch of steers, or lambs, or hogs one year and lose all he makes the next year. One man may grow three hundred bushels of potatoes one year at a magnificent profit and with the same effort lose money the next year. One community may make a good profit and another community a few miles away, farm at a loss. One state has favorable conditions one year while another has bad. It can be stated in general as a broad

fact that to have a prosperous agriculture, conditions which will enable the farmer to live fittingly and maintain at the same time the productive power of his land, in other words, to do his best in supplying a full ration to the people of the world, now and in time to come, the average farmer, under average conditions, for a period of years, must make a profit. It will not do to take exceptional individual yields, like those we read about in the city papers where a man pays for his farm from one crop of potatoes, or one crop of clover seed, or one crop of sugar beets, etc. Neither would it be fair or just to fix the cost of producing milk from the records of an exceptional cow or herd, even. On the other hand, it would not be fair to the consumer to determine cost on poor crops or on crop failures. Consequently, the cost of production for all agricultural products must be an average cost under average conditions for a series of years.

What agriculture needs and must have is a business organization of the farmers of every county in every state in the Union whose duty is, under expert supervision, to determine the cost for each county. But the county cost is not sufficient. The county cost of each county in the state must be averaged to get the average cost for the state. And this is not enough. The cost of each and every state must be averaged as a whole to determine to a close approximation the cost of producing a given agricultural product for a given year for the nation. Then after we have the data for a series of years, a national cost can be determined that will be beyond dispute.

What can be done with a surplus? The skeptic will say that one year of overproduction will smash the whole business. Not so. Products must be held on farms and in local and terminal elevators and storage and placed on the market only as the consumers will pay a just price. An excess can be held or transferred into other channels and future production limited on this product to meet the needs only of the market. But the farmer must be as just to the consumer as he asks the consumer to be to him. No food product in time of scarcity should be held for excessive profits. It must be sold for a fair and just price. A policy of this sort would do away largely, if not entirely, with speculation in food products after they leave the farmer's hands, because prices would vary but little from year to year.

My friends, the county, state and national farm bureaus now organizing, can and will accomplish all this. We have an example of what can be done in a local way in carrying out this principle, in the Michigan Milk Producers' Association. They interested our experiment station in their cause and de-

(Continued on page 149).

Live Stock Men Elect Officers For 1920

NEW officers of the Michigan Improved Live Stock Breeders' and Feeders' Association are: Herbert Powell, of Ionia, president; J. Fred Smith, of Byron, vice-president; George Arthur Brown, of East Lansing, secretary; W. E. J. Edwards, of East Lansing, assistant secretary; H. H. Halladay, of Clinton, treasurer.

The executive committee consists of Jacob De Gues, of Alicia, J. Lessiter, of Orion, Earl C. McCarty, of Bad Axe, Alexander Mintry, of Ionia, and W. E. Livingston, of Parma.

Officers of the other live stock organizations are as follows:

Michigan Sheep Breeders' and Feeders' Association.—E. G. Read, of Richland, president; Amos Welch, of Ionia, vice-president; Donald Williams, of Lansing, secretary and treasurer.

Michigan Swine Breeders' Association.—W. C. Taylor, of Milan, president; P. P. Pope, of Mt. Pleasant, secretary and treasurer.

Michigan Horse Breeders' Association.—Jacob DeGues, of Alicia, president; R. S. Hudson, of East Lansing, secretary-treasurer.

Michigan Holstein-Friesian Association. H. W. Norton, of East Lansing, president; Albert Jenkins, of Lansing, secretary-treasurer.

Michigan Guernsey Cattle Club.—E. J. Smallidge, of Eau Claire, president; Earl Henningway, of Solus, secretary-treasurer.

Michigan Jersey Cattle Club.—Alvin Baldwin, of Capac, president; Alfred Hendrickson, of Shelby, secretary-treasurer.

Michigan Hereford Breeders' Association.—Jay Harwood, of Ionia, president; E. E. Cole, of Hudson, vice-president; W. B. Wood, of Dowagiac, vice-president; Tony Fox, of Pewamo, vice-president; E. C. McCarty, of Bad Axe, secretary-treasurer.

Michigan Shorthorn Breeders' Association.—George Prescott, of Tawas City, president; L. P. Otto, of Charlotte, vice-president; W. E. J. Edwards, of East Lansing, secretary-treasurer.

Michigan Aberdeen-Angus Breeders' Association.—L. W. Sommer, of Paw Paw, president; Ward Hathaway, of Ovid, secretary-treasurer.

Michigan Red-Polled Breeders' Association.—N. C. Herbison, of Birmingham, president; E. J. Peabody, of Grand Ledge, secretary-treasurer.

Michigan Poland-China Breeders' Association.—J. R. Hawkins, of Hudson, president; I. K. Maystead, of Hillsdale, secretary-treasurer.

Michigan Duroc Jersey Breeders' Association.—O. F. Foster, of Pavilion, president; J. B. Miller, of Ithaca, secretary-treasurer.

Michigan Chester-White Swine Breeders' Association.—F. Nickel, of Monroe, president; A. J. Barker, of Almont, secretary-treasurer.

Michigan Oxford Sheep Breeders' Association.—O. M. York, of Millington, president; I. R. Waterbury, of Detroit, secretary and treasurer.

Farmer's Share in the Poultry Industry

AS a class, the farmer is the largest share-holder in the poultry industry. However, there are a good many individual farmers who do not have as large a share as they should have—while others who do keep good-sized flocks fail to get their proportionate share of the profits. The latter is the saddest part of all, for it is usually the owner's own fault.

Poultry on the farm may be profitable or it may not be profitable. This depends on the farmer or the farmer's wife more than upon the poultry industry. Some people have proven to their own satisfaction that a farm flock is not a paying proposition. But most people know that poultry raising offers the farmer the best and most profitable side-line he can engage in without interfering with his other farm work.

The difference in profit is almost always the difference between good and bad care. When we find scrub chickens being kept in scrub houses and given scrub care and management, not much in the way of profit can reasonably be expected.

Every farm flock should have a good house all of its own. It is not sufficient to let the hens roost on fences or in trees in the summer time and then give them access to the barns and stables in the winter time. While hens do not have to have an elaborate house, yet it should not be full of cracks, broken window lights, etc.

The house must also be kept clean. If the ground inside is covered to a depth of several inches with poultry manure, roosts and nests are lousy, you can be pretty sure of ultimate loss. One such farmer we knew declared that "chickens are too much bother anyhow—I'll keep hogs." He did better with hogs simply because he gave them better care and attention.

Most farm wives are awake to the

Scrub Chickens Kept in Scant Houses and Given Scrub Care will Bear the Owner Little Profit

By Briant Sando

value of a well-cared for flock of farm poultry, and appreciate its helpfulness for "better poultry and more of it" in when it comes to providing "pin-money" and paying for groceries. But few women have the strength and courage to arrange things as they should be around the farm, and help from the other side of the house is quite essential in such cases.

If poultry raising cannot be made profitable as a farm side-line, then certainly it cannot be made profitable anywhere. Handled in this way there is little expense for food, whereas with large flocks all the feed the chickens eat is a dead outlay. Also, poultry raising enables the farmer to bring into profitable use the unworkable hill-sides and the rough rock-lands, which make almost ideal ranging places for chickens.

It is a little late for New Year's resolutions, but it is just right for New Poultry resolutions, for a new breed-

ing season is just dawning. Plan now for "better poultry and more of it" in 1920.

First of all, keep good fowls. They should not only be of some standard variety but should also be fairly good fowls of the variety chosen. Then they will be better layers, make a nicer appearance, either alive or dressed, and if a meat breed is chosen the chickens are larger and better in every way.

The best breed to keep depends largely on personal choice. All breeds are good, but some are better for certain purposes than others. For instance, the farmer should stick to the time-tried and proven varieties and let the new-fangled varieties for the fancier and showman.

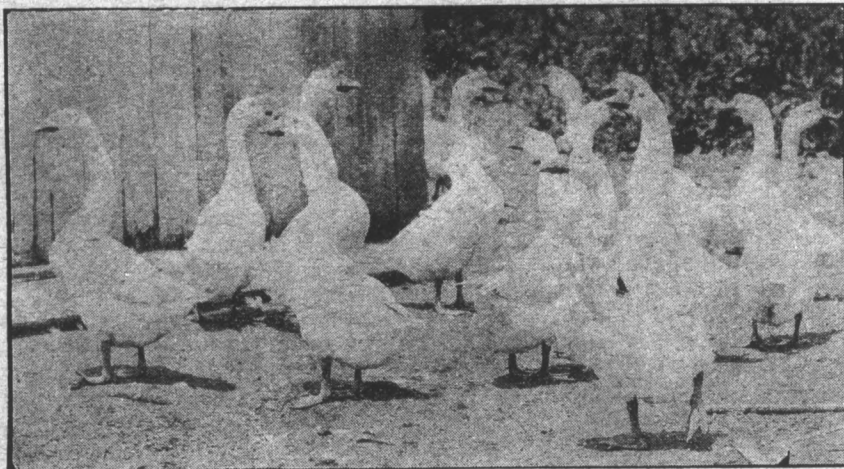
For eggs alone, the Leghorns, Anconas and Minorcas cannot be beat. For an "all-around fowls"—that makes a good table fowl as well as egg-producer—you can't beat the well-known

farm favorites, Plymouth Rocks, Wyandottes, Rhode Island Reds, and Orpingtons. Good care will bring success with almost any variety.

After getting a good start with pure-breds, either by buying stock or eggs, the fowls should get good quarters so they will have a fair chance to show what they can do. A good poultry house is not necessarily a costly affair. In fact, the best houses are usually the simplest, but there are four prime requisites that must be observed—comfortably warm in winter, dry and free from dampness, well lighted, and properly ventilated.

Artificial heat is never necessary if the house is free from cracks and cold drafts. The floor should be a foot or more higher than the surrounding land on the outside and then there will be no trouble with damp floors or litter. Light and sunshine should be secured by means of windows in the south (front) wall of the building. Half of these window openings should be covered with glass and half with muslin, which also provides necessary ventilation. If you have an old house, and it is not well ventilated, make new openings in the south wall or else cover half of the present glass windows with muslin curtains. On fair, sunshiny days these should be removed, and the house and fowls given a thorough sunning and airing. This aids sanitation and makes the fowls more hardy.

The roosts and nests can be made quite simply and cheaply in any house. Drinking fountains and food hoppers can be supplied as needed. Incubators and brooders should also form a part of every farmer's equipment. Early-hatched chicks sell to best advantage as broilers or friers. Also, early-hatched pullets are the best producers of eggs in winter when prices are high, and the only way one can be sure of getting pullets hatched early is by using machines.



Making Hogs Come to Time

By W. F. Taylor

CONTRASTING the present prices of hogs in the leading markets with those received last July, we have another practical illustration of the importance of making the hogs come to time. I have used the word another, because the rule that pork brings a lower price after October 1, than at any time during the two or three months preceding is seldom broken. I hasten to admit that the sudden fall in the price of hogs last August was brought about in large part, by causes that were abnormal, yet the rule holds good, nevertheless, for had there been no loud talk about reducing the "high cost of living" the supply of hogs on the market would have brought down the price this fall, as it has usually done.

When we stop to think about it, present conditions in so far as the prices of hogs are concerned, are very serious. The bulk of all the pork marketed this season has been sold since the price went down, and for the last six weeks prices have been below the cost of the feed consumed by the hogs.

We have no adequate estimates at hand, showing the relation of feed costs to other items of expense in pork production, but if we consider the labor involved, together with interest on investment, charges for depreciation, and occasional losses which are bound to occur, thirty per cent would not seem too much to be charged to other items than feed in pork production.

For the last year, the average feed cost of live hogs has not been far from

fourteen cents, according to our best judgment. The Iowa Station is always doing something for men who are growing hogs. Last fall they completed an extensive experiment designed to illustrate the value of mixed feeds. A number of different brands of ready mixed feeds were tested out in this experiment, corn and tankage being used as a check.

In every case the larger profits resulted from the feeding of corn and tankage, or corn, oil meal, and tankage, but the cost of corn and tankage, per hundred weight of hogs at the close of the experiment was \$11.85. In addition to this, the hogs ran on rape

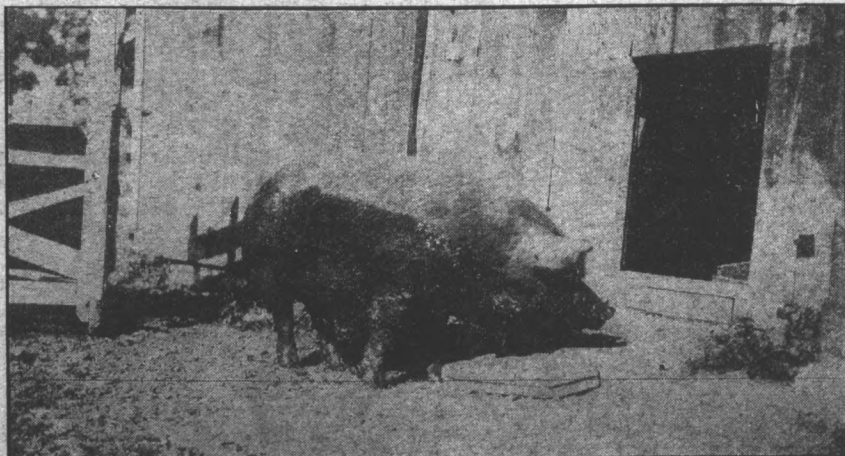
pasture throughout the experiment. These hogs were not fed under average conditions. They were cared for by men who knew how, in a state where pork production is one of the chief industries. Considering the value of the pasture, together with the comparison of conditions at the station, as against those on the average farm, it would seem likely that even in Iowa, fourteen cents would be below, rather than above, the feed cost.

It might be to the profit of the reader if we were to go into this experiment more deeply, for it suggests many things. But in this connection we are merely trying to illustrate the

importance of so planning the marketing of our hogs as to put them on the market when it is probable that the fewer number of feeders have hogs to sell. It is usually possible for the dairyman to market his hogs twice a year—once in March, or early April, and again in August, or early September. True, there are exceptions to this rule, but on the whole, it is safe to calculate to this end, being in position to hold the hogs a little longer, or to sell them a little sooner if conditions make it advisable.

If our pigs are to be ready for the spring market we have before us the problem of producing winter pork. To do this requires special care, and some knowledge of the hog and his care. Not much extra expense is necessary, but a few things must be understood and attended to. The pigs should not be farrowed later than September; August 15 is better. They should have plenty of skim-milk, or tankage, or some of both, and should have opportunity for exercise. The sleeping quarters should be divided and reasonably warm, and the feed should be given according to the requirements of the pigs.

One thing should never be overlooked by the feeder—the pigs are machines for pork making, and the feed is the raw material from which the product is made. The more feed we can put into these machines the more of the finished product we may expect, providing the machines are not over-



Concrete Block Prevents Mudhole in Front of Doors.

(Continued on following page.)

worked. In other words, the question is not how cheaply we can winter the pigs, but rather how much can we induce them to eat and properly digest. Feeders of cattle for spring market will be able to run hogs with the cattle, and get them ready before the price of pork is apt to fall.

In considering this matter of making winter pork, general statements seem to the writer very tame. Considering what he has been saying, he makes this observation. The fact is, this business of winter pork making is up to the man. Everyone who succeeds must follow these general rules, but many fail who will tell you that they also feed and care for their pigs according to up-to-date methods. No man can succeed in the business of feeding hogs unless he can tell by looking at a bunch of pigs which way they are going. If they are not growing properly something is wrong. He will at once look for the trouble. It may be the lack of proper elements in the ration, it may be the lack of exercise, perhaps it is a foul sleeping place, and again perhaps the temperature is not warm enough. Something is the matter if unsatisfactory gains are resulting and here, as elsewhere in any business, if things are not going right, something must be done. Often the difference between the successful man and the one

who fails is, that the farmer is ever on the watch, seeing troubles while they are yet small and easily remedied, and the latter has his mind elsewhere until the difficulty is too big to be righted.

March pigs are best for the man who wishes to get them on the September market. If one has a proper place for the sows, and if they and the young litters are given the requisite care and feed, the pigs will get a good start and the rest will be somewhat easier than the task of making economical pork during the cold of winter.

I remember telling an audience in a farmers' institute in the southern part of the state, that one could produce pork as cheaply during the winter as in the summer. They looked at me with a sort of pity, which out of personal consideration for me, I think they did not express to the State Board of Agriculture. Personally at that time I had none of the unfortunate experience of many in growing winter pork. The people of our community are dairymen, they keep small bunches of pigs each winter, and I think they produce pork about as cheap as in summer months. But this is not the rule. Anybody can feed a hog if he may run in a good pasture, if the weather is favorable, and if he is fed enough to be kept growing.

In growing pork in the summer, rape

will play a larger and larger part as time goes on. Hogging corn down in September may look like a wasteful practice, but it is bound to be more and more popular if labor remains as scarce and as high in price as now. But let us not forget that the one item overshadowing all others, is the price we get for the hogs after we have grown them. There are very few bunches of hogs in Michigan that have been sold since September 1 that have brought more than their feed cost. Today they are going considerable short of that. It is a very serious condition when the greater part of the product of an industry as important as this must be sold at a loss. And yet I hear little complaint about it because we have not been in the habit of figuring the cost of production. From spring through the busy summer, on through the autumn, and into the winter, we have toiled, the good wife and the children helping what they could, and if we have been able to sell what we have produced for enough to buy what the family will need during the winter, buy a few extras, pay the interest on the mortgage, and pay our taxes, we have been content to let others fret about the relation of agriculture to other lines of business.

But "a new day is dawning"—in it the farmer is asking for "cost of pro-

duction plus a reasonable profit." The answer to that request may be long on the way, but it lies partly within ourselves. By better methods of production and marketing, profits may be made where otherwise losses would be inevitable. To illustrate, compare the sale of a bunch of hogs weighing two thousand pounds last July, at twenty-three cents, with a like lot marketed this week at thirteen cents. The cost of the hogs to the farmer would be practically the same, but the difference in the final returns is \$200.

Of course it would not be practical to market spring pigs in July, but nearly as good a price might have been gotten up to August 20 and a much better price was possible all through September than can be had at present. If every one who grows hogs marketed them in March and in early September these seasons would be most unfavorable times in which to sell, but they will not all do so. The desirable thing is to have enough people do so, to prevent congestion of the market at other times, and thus not only increase the return of those who market as we have suggested, but at the same time prevent in part the losses of those who must sell at other times in the year. More attention to this phase of pork growing would insure greater profits to our feeders.

Michigan Crop Report

The Total Value of the State's Staple Crops for 1919 is Estimated at \$342,602,000

THE money value of crops grown in the state of Michigan during the past year is probably the greatest on record, not because of unprecedented acreages or yields but because of the higher price levels reached. The value of the leading crops, including all mentioned in the joint crop report issued by Mr. Coleman C. Vaughan, Secretary of State, and Mr. Verne H. Church, Field Agent, United States Bureau of Crop Estimates, is \$342,602,000. This includes the grain crops, hay, potatoes, sugar beets, clover seed, apples, pears and peaches, but does not include some crops, such as the small fruits, truck crops, chicory, mint, etc., for which quantitative estimates are not available. The total acreage of the crops included, exclusive of the fruits, is 8,856,000. This is an excellent showing in the face of the extraordinary movement of farm ers and farmers' sons from farms to industrial centers, and the impossibility of securing an adequate supply of well-qualified farm labor. A severe drought in mid-summer extended over much of the state and reduced the yields in certain sections, while grasshoppers did an enormous amount of damage in many counties of the northern half of the lower peninsula. However, the season was generally good and more favorable on the whole than for several years past.

Winter Wheat.—The crop of 1919 was one of the best every grown in the state. The acreage was the largest since 1915, and the average yield per acre, 20.3 bushels, was the largest except that of 1915 in the same period of time, being 19,295,000 bushels. This record production was the result of unusually favorable conditions throughout the growing season. The winter was mild, and the abandoned acreage from winter-killing was exceptionally small.

The amount of wheat purchased by mills and elevators during the month of December is estimated at 1,190,000 bushels; the amount purchased since August 1, 7,810,000 bushels.

Spring Wheat.—During the past four years the acreage of spring wheat has increased from a few thousand acres to 85,000. While the yield was 18.0

bushels in 1918, it was only 11.2 bushels in 1919. The estimated production for the past season is 952,000 bushels, having a value of nearly \$2,000,000.

Corn.—One million six hundred and fifty thousand acres were grown in the state this year. The average yield per acre was 39.0 bushels, and if all of the acreage had been devoted to grain this yield would have produced a crop of 64,350,000 bushels. As a matter of fact approximately thirty-five per cent of the acreage went into silos. Treating this as being of equivalent value per acre as the grain crop, the crop is worth \$38,803,000, or more than that of any other year in the history of the state.

Oats.—The crop was relatively the poorest of those grown in the state this year, and was the smallest production since 1907, being only 36,875,000 bushels as compared with 66,320,000 last year. The season was unfavorable for the spring grains, and many thousands of acres of oats were not harvested at all and many more thousands were cut for hay. The yield per acre for the total acreage of 1,475,000 was only twenty-five bushels. The value of the crop, based on December 1 prices, is \$26,181,000.

Barley.—Barley suffered similarly to oats, the yield being only nineteen bushels per acre. The acreage was also 20,000 less than last year, so that the production of 5,320,000 bushels was nearly four millions less than that of last year. If sold on December 1, it would have brought a total of \$6,278,000.

Beans.—The bean crop is estimated at 4,030,000 bushels, or approximately 850,000 bushels less than last year. While the acreage was only sixty per cent of last year's, the yield was thirteen bushels as compared with nine produced last year. At an average value of \$4.20 per bushel on December 1, the crop was worth \$16,926,000.

Rye.—The most marked change in acreage of any crop is that of rye

which has increased from 325,000 in 1916 to 900,000 in 1919. At fifteen bushels per acre, a production of 13,500,000 bushels is obtained, the largest of any state except that of North Dakota. The valuation of the crop is \$17,280,000, which is in marked contrast to the valuation in 1905 when the crop was only 2,146,000 bushels and was worth only \$1,266,000.

Buckwheat.—This crop is grown in many sections only as a catch crop, that is, a substitute for crops that for some reason could not be planted in season. As planting conditions in 1919 were more favorable than in other recent years, there was less need for substitution and the acreage of buckwheat was consequently smaller than usual, and less than in any year since 1905. The yield was 13.8 bushels and produced a crop of 562,000 bushels, worth \$907,000.

Potatoes.—The potato crop, based on December 1 prices, was worth \$38,729,000. The production amounted to 28,688, bushels or about the same as last year. Fourteen thousand less acres were grown but the yield was slightly larger, and the quality was excellent. It is estimated that 19,460 cars will be shipped from the commercial area as compared with an available supply for shipping of 12,000 cars last year. The commercial crop graded as follows: No. 1, seventy-eight per cent; No. 2, fifteen per cent; culls, seven per cent.

Tame Hay.—The estimated production is 3,180,000 tons, or about 500,000 tons greater than last year. The yield was lighter than usual, being 1.2 tons per acre; 2,650,000 acres were devoted to the crop, which is a slightly larger area than last year. Owing to the high average price of \$23.50 per ton, the value of the crop is the highest on record, being \$74,412,000.

Sugar Beets.—The final revision of the estimated acreage, yield and production is not available yet, but the preliminary estimates are 110,448 acres

harvested, a yield of 9.1 tons per acre, and a total production of 1,001,000 tons. As the average price paid to farmers was \$11.28 per ton, the average per acre value of the crop amounts to \$102.65, and the total crop value, \$11,291,000.

Clover Seed.—The clover seed acreage is much less than usual, being estimated at 72,000 acres. One hundred and one thousand bushels is the estimated production as compared with 90,000 bushels last year. The average price per bushel was \$27.50, and the total value \$2,778,000.

Apples.—The apple production is placed at 6,484,000 bushels as compared with 9,792,000 bushels last year. The crop was generally good from Oceana county northward along Lake Michigan to Traverse City, but was generally light in the southwestern counties. Over the remainder of the state, the apple crop was probably the lightest in many years. The commercial portion of the crop is placed at \$1,109,000 barrels, that of last year being 1,495,000 barrels.

Peaches.—While the state produced over two million bushels in 1915 and again in 1916, the crop this year was only 480,000, although this was much larger than that of last year when only 85,000 bushels were produced. The average price was \$3.10 per bushel and the total value was \$1,488,000.

Pears.—The pear crop is estimated at 426,000 bushels, or about sixty per cent of that of last year, and about forty per cent of the production in 1916 and in 1917. The crop was worth \$1.80 per bushel and brought a total of about \$767,000.

The amount of grain and seed threshed as reported by threshermen up to and including December 27, 1919, is as follows:

Crop.	Bushels.	Aver. Yield.
Winter wheat	17,153,613	20.3
Spring wheat	860,225	11.2
Rye	11,258,657	13.4
Oats	28,217,541	23.9
Speltz	159,062	17.7
Barley	3,646,485	16.9
Buckwheat	214,498	13.1
Peas	269,650	11.7
Timothy seed	2,871	2.5
Clover seed	64,275	1.1
Beans	3,031,632	13.8





THE FARMER AND GOOD ROADS.

BY LEE HILCO.

WHO in the world is more interested in good roads than the farmer. He is the one who uses the roads in his business year in and year out. Roads are to the farmer what street cars are to the worker in the city—it makes his business possible. Good roads improve his chances of success, while poor roads hold him back. Paved streets are no more valuable to the city than paved roads to the country, but the city has recognized their value while the farmers have just begun to comprehend it. I know that there is not a single community that cannot quickly discover some considerable expense that bad roads have caused.

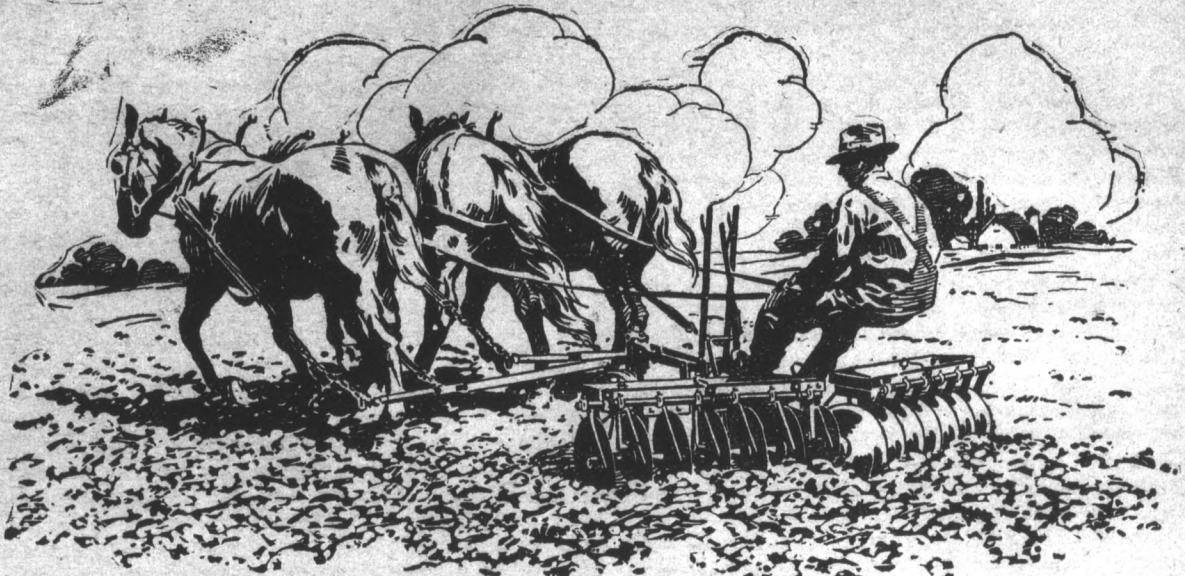
I know many roads that compel all the farmers who travel over them with loads to use fully double the motive power that would be needed if they should be hard surfaced and brought to a correct grade. I know when one farmer hired men to haul wheat from a threshing machine to town over such a road and he paid enough more for that hauling alone to pay heavy taxes on his share of the road building necessary to give the best kind of a roadbed. The good roads when rightly built will not need rebuilding for years, while every year of poor roads costs the farmers that haul over them a big expense. If the farmers would just keep an accurate account of all the actual cost to them from bad roads, counting the extra horse and man power, extra time consumed, and loss from reduced prices, delayed work, depreciation of products because of delays, and every other cost that the roads cause directly they would soon realize that bad roads are most awfully expensive. Surely they are not pleasant!

The time was when farmers declared the road campaigns were all in favor of the automobilists, but since the most of the farmers own automobiles they are not talking so much, and they are talking roads more. The corn belt states and all the midwestern states show a remarkable condition. Most of them can haul nearly their whole population in their automobiles at one trip. Iowa has a record of seven passengers to the car, and the automobiles in the country are in practically the same ratio to the country population as those in the city to the city population. We can readily see that country roads will be traveled mostly by country automobiles, and since the farm truck has become such a power as a labor-saver good roads have become all the more important. With the advent of the heavy truck that will haul two to five tons to town at one load farmers must not skimp the material in their roads, for only the best will stand this kind of traffic, and these trucks have come to stay and increase in numbers. They are much too profitable on the farm to be checked now, so the roads must be made to suit them.

MICHIGAN POTATO GROWERS MEET.

THE Michigan Potato Growers' Association will meet at East Lansing during Farmers' Week, February 2-6, when a good program will be provided. The meeting will be for one day only and a printed program will be issued before the date of the meeting. All potato growers should make it a point to attend this meeting.—A. M. SMITH, President.

Results show at Harvest Time



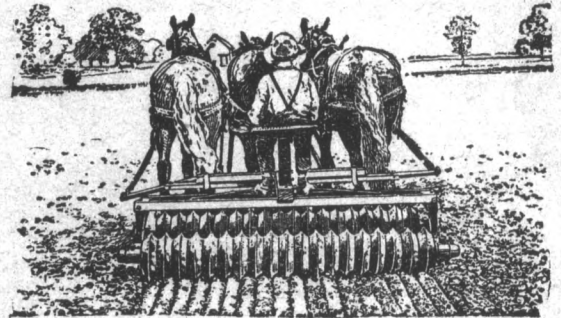
IF your seed bed is not properly prepared, take an inventory of the clods—the rough stuff in the field—and enter every single one of them in your ledger as a liability. They are just like so many pores letting out that precious subsoil moisture. You cannot spare that stored power if you want bumper crops.

International Tillage Tools put your seed bed in prime condition. In this deservedly popular line of implements are disk harrows, spring- and peg-tooth and combination harrows, culti-packers, etc. The disk harrow, for instance, slices and destroys the clods until the close-knit covering guards every bit of subsoil moisture, while permitting the absorption of additional supplies from above.

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or trashy ground, the three-lever type with its center-depth regulator insures a firm, compact seed bed. If you use a tractor, see our leverless tractor disk. Whatever your power equipment, we have a size that utilizes it to the best advantage. Ask your dealer to point out to you the exclusive features of each type.

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The Farm Bureau and Its Job

(Continued from page 116).

wants. To base the market price absolutely upon the cost of production and to readjust wages to keep up with increased cost of commodities means to fix prices, and that is what many a man advocated now, "so that everybody will know what he is doing."

Have we thought this thing out? We can of course, say that a certain commodity shall sell at a certain price, and that the buyer must pay that price or leave it. So far so good. But no law of man can compel the buyer to pay the price and take the stuff, particularly if he has not the money and cannot get it. Right there is where price fixing breaks down, and that is the reason that no one of the price-fixing schemes tried in Rome, England and elsewhere could work. Such a scheme can work only when the demand is clearly above the supply, and only so long as it remains above it.

It is for an organization such as this to be informed in matters of this sort and to stand as a stone wall against mistakes, no matter how insistent the popular clamor. It is the only way to forestall a dangerous mob psychology in affairs agricultural.

We need more data upon the cost of production, certainly, but as a guide to practice, not as a basis of fixing prices in time of peace. There must be left to bargain, to contract and to the processes of trade, and here is a great field for this and similar organizations.

Marketing.

A great deal is being said these days about cooperative marketing. Much that has been done has been purely protective in the sense that individual farmers have combined to resist the inertia, if not the oppression, of speculating markets. But the problem is rapidly broadening and deepening. It is perfectly clear now that the real question before the farmer is precisely the same as the question before the consumer, that is to say, one of distribution. In all this the farmers must be wiser than the general public. The general public just now is out hunting for criminals. It is hunting with a hammer and with explosives. In the language of the street, the public is on a general trust-busting expedition and counts its victories by the number and character of the things which it forbids Big Business to do.

Now all of this is not simply prohibitive; much is injurious and will work only to the injury of the service. The farmers must be wise enough to work with and not against the agencies that undertake the collection and re-distribution of the products with which they deal. I am glad to know that the bulk of the wool clip of Illinois was marketed this year through the Agricultural Association and the Farm Bureaus working in cooperation.

I am satisfied that much more is to be gained by entering into conference with the packers, for example, than by fighting with them, giving them clearly to understand that all hands must lay their cards upon the table and find the best ways of handling as well as of producing meat, and that they must work at that problem until it is really solved. I count it fortunate that as expensive and as complicated and as hazardous a business as the meat business is well organized as it is in a few units, and that it is so well prepared to meet the farmers in open discussion. If the business of distribution of meats had been no better organized in the time of war than were most of our industries, we should never have fed the Allies.

Now this valuable machinery must not be destroyed. The packers may not have served the public as well as they ought. They may have, for all I know, committed all the sins in the

calendar, but if the five great packing concerns in the country should be dissolved and we should go back to the primitive conditions of a half century ago, it would be the worse not only for the producer but for the consumer as well. It would have been fatal in war. We need the service. Our machinery is good so far as it goes; what it needs

is improvement, not wrecking and recasting, and what we need is close and continual conference between the machinery which produces our meats and that other machinery which sends them to the consumer, even though it be to the ends of the earth.

In bringing about this understanding and cooperative relation, however, two

difficulties are bound to appear. As long as the farmer is fighting the packer he will not be suspected of ulterior motives, but the moment he begins to get in conference with him around the table, even the members of our own association will begin to question whether or not the officers and directors may not be hobnobbing with the octopus. This is small business, but it will appear in the order of procedure.

Another thing that will appear is this. If the farmers through their associations, and the dealers through their organizations, really do succeed in finding ways of cooperation whereby some of the hazard may be taken out of production and some of the difficulties eliminated, that animal of seven heads and ten horns, known as the public, will begin to prick up its ears and say, "Go to, now." There is a combination between the farmers and the distributors that must be broken up. And by as much as this same public has now decreed that the packer may not own cars, operate yards, or even make up his waste products into soap and glue, the same public might some time decree that the feeder may not own his own truck or grow his own corn, or that the corn grower may not feed it, but must sell it in the open market, lest somebody have an advantage over somebody. All those things will be met along the road that is ahead.

Political Power.

This association must avoid politics and political entanglements as it would avoid the devil if he were actually abroad in the land seeking whom he might devour; the example of the non-partisan league to the contrary notwithstanding. We have difficulties, even grievances, to be sure, but they must be adjusted by the ordinary processes of business or by the orderly procedures of government. We do not need and we must not aspire to get possession of the machinery of government in order to obtain our rights and privileges. In that way, too, lies oblivion, for society will combine against any class that undertakes either to force its demands irrespective of others' rights, or to get possession of the government. The recent experience of labor both in England and in the United States has demonstrated this fact in free government. It has even given rise to a paraphrase on Lincoln's famous words to the effect that no single class is good enough or wise enough to govern society without society's consent. Public opinion is set upon this point, and public opinion is the one thing in the world that is stronger even than government. It is public opinion that has just taught its lesson to the labor party in England and to striking labor in this country.

Entangling Alliances.

During the last few months organized labor has repeatedly invited farmers' associations to meet in conference, and labor papers are trying hard to make it appear that our agricultural organizations are backing the demands of organized labor.

Now the facts are that there is nothing in common between farmers and organized labor except the obligations of a common citizenship and their duty to serve society, not to throttle or exploit it. Some of the labor people are frank enough to admit that day by day and month by month the two interests are clearly opposed to each other, and yet when labor organizations have nearly reached the limit of public tolerance they invite the farmers to help them out. Have these labor people forgotten, or do they think the farmers for-

(Continued on page 124).



Illinois Association Meeting

WHAT the farmers of Michigan may expect in benefits from the Michigan State Farm Bureau was graphically illustrated at the annual meeting of the Illinois Agricultural Association, sister to the Michigan organization, in Peoria, Illinois, January 13-14. More than one thousand Illinois farmers were at the meeting and laid plans for the reaping of even greater benefits in 1920 than in 1919.

More than fifty thousand Illinois farmers of sixty-four counties are now members of the Farm Bureau Federation of that state and briefly, here's what their 1919 record shows:

Legislatively—killing of a bill which would have made it illegal for a farmer to give medicine to stock without instruction of a veterinarian; of another which would have prevented farmers from disposing of their own dead animals without licenses from the state; another which would have forced a tractor owner to procure a license to move that tractor over a road to an adjacent farm. Passage of a pure seed bill checking distribution of weed seeds, regulation of commission merchants, revision of log law, compensation for slaughter of tubercular cattle, appropriation of \$1,200 per county for county agricultural agents, collection of farm statistics by assessors, appropriation of \$125,000 for limestone plant, establishment of veterinary college at state university, appropriation for biological laboratory, regulating the spread of plant diseases, and an amendment to conspiracy bill, exempting farmers, which was of great help in securing acquittal of Illinois Milk Producers charged with combining in restraint of trade.

Commercially—establishment of a wool pool that handled more than half a million pounds of wool in the year and produced for the farmers from ten to twenty cents a pound more than they could have obtained individually on the open market. This pool will be continued in 1920 with expectation that close to one million pounds of wool will be handled in the year.

The Illinois Association ratified the constitution of the new National American Farm Bureau Federation with a volley of cheers following an address by President J. R. Howard of the National organization in which he pointed out the manifold problems facing agriculture that can only be handled by the farmers of the country solidly backing up one powerful organization. And such backing is developing. The farm bureaus of more than twenty states will have ratified the national constitution by March 3, Mr. Howard stated, and these include not only Illinois, Michigan and other states of the corn belt, but states as far away as California, New Hampshire and Georgia, making it really a national organization.

Mr. C. A. Bingham, secretary of the Michigan State Farm Bureau, and Mr. J. P. Powers of that organization, were present at the great Illinois farm gathering and brought back with them a wealth of valuable information to put

to work in Michigan for promotion of agriculture here.

Mr. Bingham says: "I have never received such inspiration as I received at Peoria. The farmers of Illinois are set and determined that the decline of agriculture as an industry shall stop and are united in the perfecting of not only a mighty state organization to handle their local problems but also the perfecting of a tremendous national machine that will promote and bolster the interests of agriculture in a national way from coast to coast and gulf to Great Lakes and even enter the international field. A new era in agriculture is being born and I am proud to say Michigan is in the van with the progressive farmers of the rest of the country."

The corn growers committee facilitated the marketing of thousands of cars of corn and recommended that \$100,000 be appropriated for 1920 for creation of a farmers' grain association that will serve as a medium for the handling of the bulk of the grain business of the farmers of the state and the up-building of the various community cooperative associations about the state.

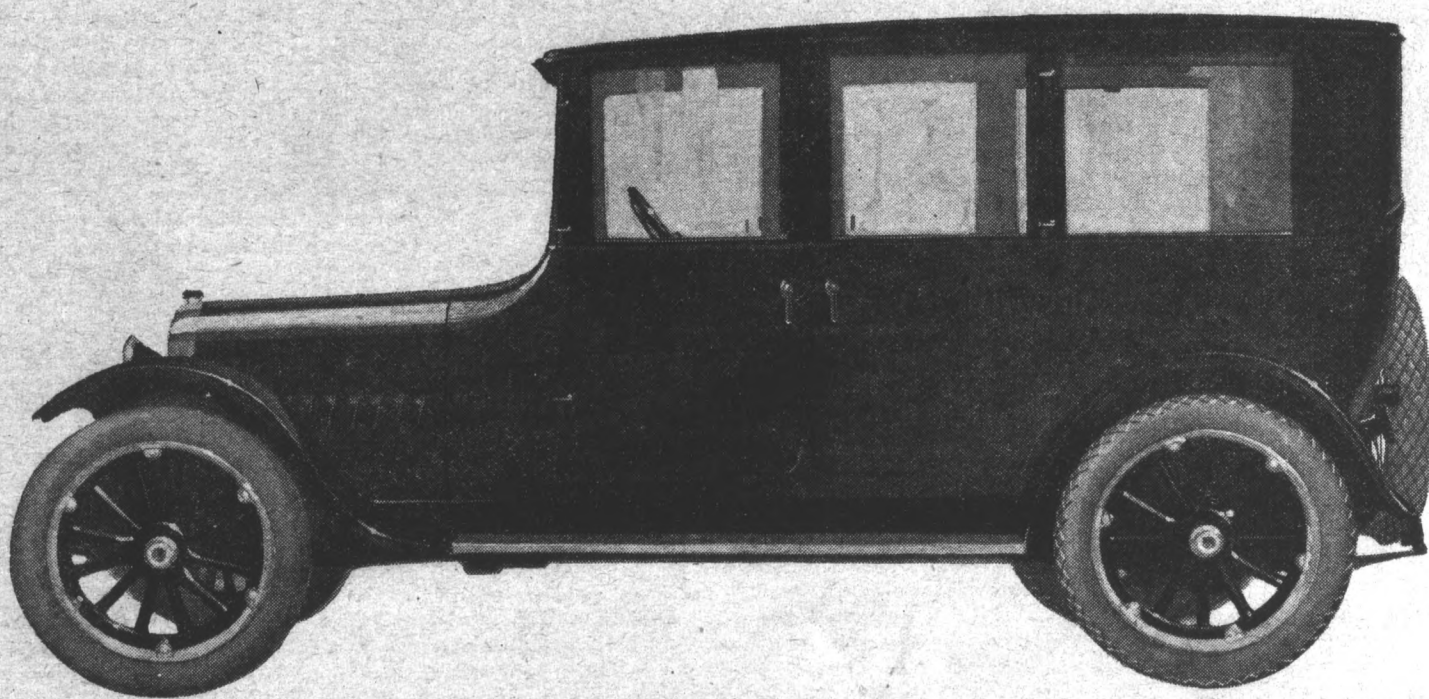
The live stock committee made a survey upon which is based the following 1920 program: One hundred thousand dollars for development of a medium through which feeder cattle, sheep and hogs may be brought more directly from grower to live stock feeder, establishment of trouble man at the Union Stock Yards, establishment of a bureau for analyzing, compiling and distributing correct and definite live stock statistics to the farmers to be part of a system for directing live stock production and marketing, development of a traffic bureau to obtain better service for live stock shippers, stimulation of domestic and foreign markets for purebred stock and establishment of business connections for marketing of such stock, cooperative purchase of concentrates, as cottonseed meal, tankage, oilmeal, molasses, etc., for benefit of live stock producers.

And there are many other ways in which the Illinois Farm Bureaus are operating constructively to save directly and indirectly cold, hard dollars and cents for the farmers, covering a wide variety of fields such as cooperative handling of fertilizers, operation of a claims department, a legal advisory department, etc.

But these benefits to the farmers of Illinois who have subscribed ten-dollar memberships to the organization did not materialize, figuratively, overnight. "It has been a long, tedious operation," President Harvey J. Sconce said. "Even now our definite operations have not reached every farmer who has become a member, but we are getting there and I believe it is conservative to say that the work of the last year in Illinois of the farm bureaus has given them such a permanent standing that the scope of their future work for the benefit of the farmers of the state cannot be estimated."



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OAKLAND MOTOR CAR COMPANY
Pontiac, Michigan

(Continued from page 122).

get that it is organized labor that has defeated a state constabulary law wherever it has been defeated? And yet such a constabulary affords the only protection possible to the farmer and his family. Under circumstances such as these could any invitation to cooperate be more graceless or more offensive?

These two organized interests must go their separate ways. Each has its legitimate work to do alone, in and for itself, and each belongs in conference; but when that time comes the subject of the conference must be public service and welfare, not class advantage, and representatives of all interests must be present.

Organized labor is not the only extraneous interest that will attempt in one way or another to "use" the farmers and their associations. We are in one of the most peculiar and unsatisfactory tangles that ever beset any country and it is not to the credit of either political party that we should find ourselves so situated, when we of all the world ought to be sane and in position to exert positive, not negative influence. Both parties are looking for a way out. Both are extremely concerned about the "labor vote," and now as never before the "farmer vote" will be hidden for.

We are nearing a presidential campaign and we may all as well understand that three thousand eight hundred county farm bureaus, thirty state federations, and a national organization cannot exist without attracting political attention. It has practically all come into existence since the beginning of war—even since the last presidential campaign, and before we are many months older we shall all realize that a new power has come into public affairs.

Under these conditions does anybody suppose that the farm bureaus and their federation will fail to be noticed and their possibilities considered. Nay, verily. When for years the "labor vote" has been the greatest single consideration in our campaigns, when nobody dared discuss the craze of the moment, whether it happened to be civil service reform, initiative and referendum, or what not, it is folly to assume that this association will have as political significance in the eyes of politicians.

Probably there never was a time in our political history when practical politicians were so reluctant to do more than to announce platitudes ponderously, waiting to commit themselves upon any real issue until they should see which way the cat was going to jump. We have greatly needed a few real statesmen to help us think out new issues, but so far we have had little that was helpful, much that was confusing, and not a little that was positively erroneous and misleading. Into this whirlpool of political uncertainty the farm bureau and its federation must not be drawn at this, its christening. If it ever expects to grow up into a life of real usefulness this association and its like must keep free from all entangling alliances, especially political, and whether party or individual. From this course it should not be enticed even by the most engaging prospect of immediate advantage.

Agriculture Counted In.

Agriculture desires and intends to be invited into the counsels of the nation. Capital and labor have held the stage as if there were no other classes than employer and employee, and as if there were no other issues beyond interest and wages.

They and the public have alike forgotten that we all eat and that everybody has taken good for granted long enough. The public sometimes scolds because so much money is devoted to agriculture, but who is getting the principal benefit? Agriculture, after all, con-



The Farm Bureau and Its Job

cerns the public as much as it does the farmer.

To call a great conference between employers and employees, between capital and labor if you please, and not call into conference at the same time the farmers, is to overlook if not to ignore, the fact that the greatest and most fundamental question at issue between the two is food and that the two parties at issue know about as much about its production as a horse knows about heaven. Employers, employees, congressmen and presidents, statesmen and near-statesmen, politicians and publicists—they have all to go to school to the farmer, for he has something to say to them that is of pressing consequence.

Where Agriculture Concerns the Public.

And these are some of the things he would say: We have all been exploiting the land and mining out its fertility—spending our substance in riotous living, as a people and as a nation. And the end is not far hence unless the questions of agriculture shall be given some of the time heretofore spent in trying to adjust the eternal wrangle between capital and labor in their maneuvers for advantage one over the other.

A generation ago there was no question as to who owned the land. It was the farmer. Now it is a question who will own the lands of this country in another generation. If present tendencies continue its nationalization is only a question of time, and it is within the possibilities that we might reach a condition from which this would be the only way out.

The treatment of the land that it may not decline in producing power, the relation between landlord and tenant, the kind of housing that shall shelter the family that works the soil, the modern conveniences that shall be provided for the woman who does her own work, the circumstances under which families shall be born in the open country, and the class of parents from whom this great breeding ground of the nation shall reproduce Americans—all these must engage the attention, not only of the farmers but of lawmakers and of publicists.

The general public must become better informed about matters agricultural and about the affairs of the farm. It must reform from that haughty indifference that characterizes most of our non-farming brethren one moment, and from that patronizing pity that too often is voiced in the next.

In this connection I will reproduce the following open letter which illustrates something of what I have in mind, for agriculture figures not in the literature of our people, except as it is maligned and bungled by those who know just enough about the matter to make a mess of it.

An Open Letter to the Literary Digest.
Editor Literary Digest,
New York City, N. Y.:
My Dear Sir:

I am writing to suggest that you begin to report editorial opinion and significant contents of the agricultural press as you so ably report significant comment and current literature in other lines.

Your columns are full of matter bearing upon the high cost of living and upon the subject of food production, but I do not recall your ever having printed anything from the people who know about the problems of food production, with the single exception

of a point now and then from Mr. Hoover when in charge of the Food Administration. That is to say, the great agricultural press, reaching a full third of our population, might as well be non-existent so far as you and your readers are concerned.

I do not ask you to serve agriculture, but I do ask you to serve the public along agricultural lines as effectively as you serve it along other lines. A single example will illustrate the way in which you have helped the public to go wrong, when a decent regard to what was all the time current in the agricultural press would have prevented wrong assumptions and saved much time in reconstruction. The example is this:

The public assumed and without argument, that the farmers were enjoying a bonanza in an artificial price for wheat, that this was the principal cause of high prices, and that when this war premium was removed that wheat would come tumbling down, and with it all other prices. Your columns were full of this for a year or more.

The agricultural press knew better and their pages all clearly told why the farmer was raising wheat and why wheat was held down (all properly and as a war measure), rather than up, and they also freely predicted as much as a year and a half ago that wheat prices would rise and not fall when the Food Administration retired. It was common to call attention to the fact immediately after the armistice, that now the supplies of Australia and Argentina were available, as if they were inexhaustible, the public apparently not knowing that these two countries so much talked about produce less wheat than do Spain and Italy, and were but a drop in the bucket in the solution of the problem.

Number One Northern is now quoted at \$3.50 in Minneapolis, the highest it has ever been, except for a few days at the opening of the war; and the cheapest grade quoted in the market is \$2.65, or thirty-nine cents above the standard. In other words, wheat is now from forty cents to a dollar a bushel higher than under government management.

In ignoring the agricultural press and what farmers were saying, you have followed the example of the cosmopolitan press, but you have overlooked some exceedingly important information to which your readers were entitled, particularly when you devote so much space to all other phases of our economic life, not excepting the issues raised by organized labor.

I therefore repeat my suggestion that is the interest of getting at all the facts you open a section like the one in Science and Invention, for example, and devote it to the best information obtainable touching the production of foodstuffs.

Agriculture does not need this service, but the public does, and when it is informed it will cease trying to settle great questions like agriculture without taking stock of the agricultural situation.

Recapitulation.

It is clearly impossible within the limits of a paper of reasonable length to treat with any degree of completeness more than a few of the many questions that press upon a great subject like agriculture and upon an association such as this.

It is easy to say that it must not waste its energies in trivial matters, and that it must not be diverted from its great purpose, which is the development of agriculture in the very broadest and best sense of the term. It is easy to point out some of the larger issues that must be raised and some of the broader questions that must be settled. It is equally easy to say that the whole policy of the association must be positive, not negative, must be constructive and not obstructive, and all this means that it must have a plan and a program.

It must have a plan and really accomplish definite things for three reasons. First, in no other way can it really succeed in developing agriculture; second, without continual employment the machinery of the association will become rusty and useless; and third, unless the membership can feel day by day and month by month that something useful is being accomplished and something is being done for them which they could not do for themselves, then the membership will decline and the support will fail.

The problem, therefore, resolves itself into the making of a program involving the larger issues and accomplishments of agriculture without ignoring those smaller affairs that touch the membership day by day.

While engaged in developing better market facilities, therefore, with the greater agencies of distribution it is none the less important to develop shipping associations at home. It is just as important, too, to use the whole power of the association if necessary in securing cars and adjusting claims as it is to obtain favorable shipping rates to the marketing centers. Nothing is more important to the farmer on his farm than reasonable rates on the more bulky fertilizers unless it may be the providing of local storage at the station so that he may not be obliged to take his team off the planter to unload a car or pay demurrage at a rate that would make his fertilizer investment unprofitable.

The open country is unprovided with many of the facilities of good living that modern conditions call for. The temptation is strong for these new associations to provide these things themselves, but whether they should be the direct or only the indirect agent in securing them is a matter that turns upon a question whether and to what extent these matters are strictly agricultural. Two examples must suffice. The farming communities in general are not provided with adequate retail service. Hence the mail order houses. Clearly, the farm bureau cannot take over the business of providing this service themselves else they will be diverted from their original principal purpose, the great work of developing agriculture. It may be necessary for these associations to be active in setting at work influences which will provide this service. These influences may be local or they may be more general. There are many localities half asleep in the whole business of merchandising which could be vastly benefited by finding out who is the real live merchant, if there is such a party, assisting him in plans for adequate service, and then insuring him the support of the community.

In many sections this service will have to be imported, and I am not at all sure but that the chain store will yet develop as about the only adequate means of really serving the farmer's needs. It is almost pathetic that nobody seems ever to have made a study of the peculiar needs of a farming community in the same way that the needs of the city customer have been studied by almost every prosperous merchant. This does not mean that the farmer's needs are substantially different from those of other people, because they are not, but it does mean that there is an element of peculiarity in the farmer's needs, and this element must be studied and met.

The other illustration is this: There is no credit system whereby farmers, like merchants, may be known in the business world. Neither is there any adequate system for financing agriculture, save only the Farm Loan Act, which at best meets the needs of only a certain class of borrowers. The country banks are imitating the methods of the city banks so far as they are able, and about as far as they have gone is to make small loans on short

(Continued on page 123).

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Annual Round-Up of Michigan Stockmen

NATURE did her best to make the twenty-ninth annual meeting of the Michigan Improved Live Stock Breeders' and Feeders' Association a success. The finest brand of Michigan winter weather greeted more than five hundred breeders and feeders of improved live stock from all over the state. The sharp chill of the morning air was gradually mellowed when the sun came smilingly out and added a finishing touch to the meeting's background.

At the first general session, which was held at five o'clock Wednesday, there was a joint meeting of the allied organizations. This meeting was addressed by Mr. H. H. Halliday, president of the State Live Stock Sanitary Commission, who gave a masterly discussion of the health of Michigan live stock. The meeting was followed by a banquet tendered by the State Board of Agriculture to members of the Michigan Improved Live Stock Breeders' and feeders Association.

At the Thursday morning meeting the address of President Colon C. Lillie, of Coopersville, president of the association, proved the outstanding feature of the meeting. The address is published in full in another column.

G. E. Wentworth, superintendent of the Chicago Horse Market Company, read an interesting paper on the possibilities of the return of the horse for more general use on the farm and in city trucking. Mr. Wentworth quoted facts and figures to show that the tractor and motor trucks are not as valuable as we have been led to believe by the advocates of the "iron age." He stated that five thousand firms in the United States were willing to contribute fifty dollars each toward a fund for advertising and reinstating the horse on the market, and claimed that a fund of this sort was needed to counteract the advertising and publicity of the interests that are endeavoring to drive the horse off the markets. He further stated that the present high cost of living was due largely to the high cost of distribution resulting from the use of expensive power-driven vehicles used in our cities.

Dean Robert S. Shaw, of the Michigan Agricultural College, gave an interesting discussion of the diversified farming problem. He pointed out the hazardous conditions confronting the farmer and advised him to avoid specialties and stick to the production of standard crops and live stock. He pointed out the need of a more definite accounting system in order that the farmer might arrive at crop production cost figures. These accounts should be kept by the farmer himself, rather than by the county agent or United States Department of Agriculture statisticians.

Everett C. Brown, president of the National Live Stock Exchange and of the Chicago Live Stock Exchange, discussed the operation of the great packing industry and stock yards management under federal control. Mr. Brown's address will be published later.

Considerable disappointment prevailed among those present when it was announced that O. E. Bradfute, of Ohio, and L. Whitney Watkins, of Manchester, Michigan, could not be present to address the afternoon meeting.

Hale Tennant, Bureau of Market expert, gave a short and right to the point address on some of the work of cooperative organizations in Michigan. Mr. Tennant took the stand that agriculture as a business was capable of standing on its own feet and that with the wider development of cooperative organizations there would be no need for the much talked of patronage for the farmer.

The Michigan Sheep Growers' Association put the machinery in motion to organize a cooperative wool marketing association. A committee consisting of H. H. Halliday, Amos Welch, James N. McBride and Comfort Tyler, was appointed to perfect the organization. The idea of such an association is to sell the wool produced by the farmers of the state on a cooperative plan and avoid many of the injustices that wool producers are now subjected to in selling their product.

Live Stock Men Adopt Resolutions.

We, the Improved Live Stock Breeders, in our annual session, endorse and approve the organization of the Michigan Farm Bureau and demand that it function for all of agriculture, and especially along economical organization. We ask that the address given by President Colon C. Lillie of this body be published as a program for agriculture.

We ask that there be erected at the college a suitable pavilion that will enable the exhibition of live stock and its judging be made a factor commensurate with the standing of Michigan's purebred stock.

We ask that the Michigan delegation in congress aid and support a statute defining pure wool and the prevention of shoddy being sold in such a manner as to deceive the consumer. The advanced cost of clothing makes this subject more imperative than ever.

That we look with high favor on the organization of the Michigan Wool Growers' Association and commend it to our members for the purpose of cooperative marketing of the wool clip of our state, believing as we do that a toll of more than one million dollars was exacted from Michigan wool growers in 1919 that may be saved to the producer.

We endorse the work of the Live Stock Commissioner, Hon. H. H. Halliday, and his efficient administration of live stock laws.

We commend the work of the live stock department of the Michigan Agricultural College and the breeding and development of dairy animals to their present standing at the college. The cost of milk production work of Prof. Anderson is of the highest merit.

Whereas, we are informed that the fund for operating expenses in the eradication of tuberculosis is now exhausted and that federal testing for the eradication of tuberculosis will cease unless congress shall pass a resolution authorizing the bureau to draw on the indemnity fund for payments of operating expenses. Therefore it is resolved that Hon. J. C. McLaughlin, a member of the Agricultural Committee in congress, be most respectfully requested to use his influence for the passage of such a resolution.

We hereby extend our sincere sympathy to our esteemed colleague, the Hon. H. Hinds, of Stanton, in his affliction. No man perhaps in the state has done more than he to preserve and maintain this organization. None have been more loyal, none more faithful in attendance, none better beloved, and that he may yet be with us for many years to come, is our sincere hope.

In the death of Dr. J. L. Snyder, we all recognize the loss of a man who has been identified for many years with the agricultural and live stock interests of Michigan, and for the upbuilding and development of these industries. Therefore, be it resolved, that we, the members of the Michigan Improved Live Stock Breeders' Association, express by resolution our appreciation of his efforts in our behalf and regret his departure from our midst.

It is with great regret that we announce the death of our member of many years, the Hon. L. D. Watkins, and extend our sympathy to the bereaved family and wish that we might share with them the great loss which they must feel is theirs and theirs alone.

Another distinguished member, Mr. B. A. Kelly, of Ypsilanti, has passed into the great beyond since our last annual meeting. A good man has gone but his influence will be felt for many years to come. To this bereaved family we extend sympathy.

We wish to extend the thanks of the association to the Michigan Agricultural College for the splendid banquet given, and the many courtesies shown, and that we will endeavor to show our appreciation by doing bigger and better work and living to higher ideals.

Big Crops—Yes— But are they Big Enough?

EVERY FARMER knows that fertilizers produce big crops; but fertilizers do not always have a chance to show what they can do. Selected seed, good soil properly managed, the intelligent use of lime, good cultivation at the right time, proper rotations and a judicious choice of fertilizers are important, but sometimes these fail of the greatest possible return because the fertilizer was not carefully applied. *There should be no weak link in the chain.*



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If fertilizer is applied broadcast, sow it evenly.

Fertilizer should not be applied to grass or grain that is moist. Apply around, and not on, other plants.



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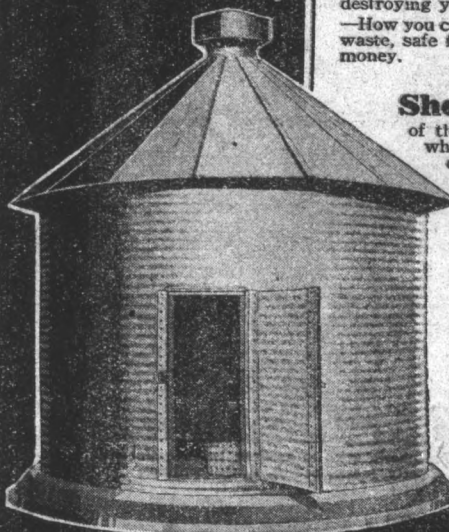
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MARTIN STEEL PRODUCTS CO.
Dept. 506
MANSFIELD, OHIO

The Farm Bureau and Its Job

(Continued from page 124).

time at a high rate of interest to individuals who are known to be "good."

Now this is not financing the agriculture of the community as city banks are now financing city business. The country banker should be the leader in business organization for financing the agricultural enterprise of that community, and this can be done in ways not yet suspected. One of the reasons why so many of our best young men and women are driven from the land is that there is as yet no plan of which the young man can avail himself, and whereby he may hope to earn his home except he first become for the most of his life a renter, raising his family under renter's living conditions. Last of all, in this connection, there is no adequate financial advice for farmers' investments beyond the ancient and habitual ones of buying more land or lending to a neighbor on a mortgage.

The ultimate success of the Illinois Agricultural Association will, in my opinion, depend upon its wisdom in keeping out of unprofitable activities, avoiding entangling alliances, and its industry in planning activities which will insure the development of agriculture along the broader lines and at the same time meet and satisfy the daily needs of its individual membership concerning matters in which he himself as an individual, is powerless.

I am so intent upon making these distinctions plain that I am going to venture a final illustration drawn from actual life. Grange Experience. Some forty years ago I joined the Patrons of Husbandry, commonly known as the Grange. Being a member I may perhaps without offense and for profit call attention to two or three chapters in the history of that honorable organization which may well serve as guiding posts and to some extent warnings, in fixing the policies of these new associations, which provide the first opportunity which agriculture has had for fifty years for correcting the mistakes that were made in that early day.

In New England where conditions were somewhat settled, the Grange began and remained a social and educational agency. But it struck the belt of states just west of the Alleghenies immediately after the Civil War. I remember it well. Conditions then were much the same as now. Prices were high and the money was greatly inflated. Production was demoralized and, as now, everybody was looking for a short and easy way out of the underbrush. Then, as now, high prices were laid to the profiteer or the middleman, as we called him in those days. We did not talk so much about hoarding and profiteering then, but we did assert and prove to our own satisfaction at least that this middleman was a wholly unnecessary cog in the wheel and an idle pulley on the shaft. He produced nothing but was himself a consumer. The problem of distribution was not so complicated then as now, and we easily convinced ourselves that the middleman should be dispensed with. Hence, the Grange store and the clerk in overalls. Hence, in a few cases the Grange bank, and it looked at one time as if the Grangers were going to take over in the name of the farmer the whole business of living, much as the Non-Partisan League is attempting to do now, except that so far as I know the leaders of the Grange movement never aimed at a separate political party.

It speedily appeared that while a few commodities could be bought cheaply on special order, yet when the Grange store attempted to supply the whole needs of the farming community from groceries to jewelry, even in those days of simple living it was not up to the job. It soon became evident that most of the things which people needed were not kept at the Grange store, or if they were, neither the price nor the quality was satisfactory. In brief, it appeared that the word "Grange" had no power of working a mercantile miracle, and that a pair of blue denim overalls did not particularly transform the dealer or make him other than what he was before—that is to say, a middleman.

Now the most serious element of this experiment in such states as Michigan, Ohio, and to a large extent Indiana, was not the fact that the Grange store failed or that the Grange bank "went broke," but it was that the failure of the Grange store carried with it the practical destruction of the Grange itself as a powerful means of agricultural progress. I do not mean that from that time on the Grange had no influence in those states, because it did have powerful influence in many places and until now, but it never became generally powerful and for the very good reason that unwise promoters in the early days in answer to the question, "Why should I join the Grange?" almost invariably replied, "In order to buy cheap." Cheap buying, therefore, became the popular label of the Grange purpose in that region, and it stuck to the institution permanently so that when that operation failed it all failed together. There is no more clear instance of the fundamental mistake of accepting one of the many side issues of a great movement and mistaking it for the movement itself than was this early and fatal experience of the Grange in dealing inadequately and unwisely with the problem of distribution.

When the Grange came further west it struck Illinois at about the time the farmers were fighting the railroads. The farmers had good cause to discipline the railroads in those days because they had been largely built out of bonds subscribed by the land owners, yet were they insolent in their behavior and inefficient in their service. The farmers were as mad as a nest of hornets before the Grange came, and quite naturally they seized on this new machine as a weapon for chastising the common enemy—the railroad. They used it to an effective purpose, and the railroads never got over the consequences. Neither did the Grange. Both of them are in trouble yet as the aftermath of that old fight nearly fifty years ago. For the railroads are not today what they should be, largely because of popular prejudice, and the Grange has not been, as it should, a major factor in the agricultural development of the Mississippi Valley. These two great forces came to grips on the side lines, and while they are both still living they have hindered each other from doing what both ought to have done long ago, that is, developed into peaceful, established, and indispensable factors of society.

After the passage of a half century we now have another opportunity to develop agriculture with new improved machinery along enlarged and significant lines. The times are trying, but it is surely not impossible by combining our knowledge of history with common sense to avoid at least the principal mistakes that beset the path of associations such as ours, and to achieve for our constituency something at least of the service they so sorely need and so richly deserve.

It speedily appeared that while a few commodities could be bought cheaply on special order, yet when the Grange store attempted to supply the whole needs of the farming community from groceries to jewelry, even in those days of simple living it was not up to



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SEEDING TO CLOVER AND GRASSES.

Will you tell me how much seed of the various clovers and grasses to sow per acre, and whether different soils need different amounts? Also, if there is alfalfa that will not heave out. We got a good catch, but the next spring it heaved out until it didn't amount to much. Our soil is a gravelly clay.

Lenawee Co.

J. L.

The amount of grass seed to sow per acre does and should vary with the conditions and circumstances under which the seeding is made. With seed of perfect germination and an ideal seed-bed, together with favorable weather conditions, the rate of seeding might be very much less than is usually prescribed. However, as ideal conditions of germination, soil and weather are so seldom met, it is necessary, as a matter of safety, to use what might seem to be unnecessarily large amounts of seed. In advising the proper amounts of grass seed to use, one has to assume average conditions and leave much to the judgment of the farm operator. The following figures are given, therefore, with this understanding:

Alfalfa, fifteen pounds, with a range of from ten to twenty pounds per acre; hulled sweet clover, fifteen pounds, with a range of from twelve to twenty pounds; red clover, ten to fifteen pounds; alsike clover, five to eight pounds; timothy, alone, ten to fifteen pounds. A common mixture is timothy, two to four pounds, and red clover, eight to ten pounds. Bluegrass is seeded at the rate of about thirty pounds, and orchard grass about twenty-five pounds per acre, depending largely on the quality of the seed. In grass seed mixtures the amounts of each are considerably reduced in proportion to the number of varieties in the mixture.

It is claimed, and the experiences of Michigan farmers seem to bear out the contention, that alfalfas of the variegated blossom strains, like Grimm and Baltic, possess such a habit of root growth and such inherent hardness that they will not winter-kill or heave out under ordinary Michigan conditions. As the seed of the common blue blossom varieties and the variegated blossom varieties looks exactly alike, one can be sure of getting the genuine article by buying only from the few absolutely reliable seed houses and seed growers' associations. We understand that the secretary of the Michigan Crop Improvement Association, East Lansing, Michigan, has an option on several thousand pounds of genuine Grimm. He would be glad to give you the price and particulars about this seed.

H. L. B.

ONE SEASON HAY CROP FOR SANDY LAND.

I have five acres of sandy soil from which I took off a crop of rye this year. What can I plant this next spring to get a crop of hay the same season?

SUBSCRIBER.

I believe it would pay you to plow this field early in the spring, apply about one and one-half tons of ground limestone per acre. Keep well worked until about June 1, sow soy beans or cowpeas in rows thirty inches apart, using one-half bushel of seed per acre. Cultivate the crop two or three times. Harvest for hay in the usual way the fore part of September or before if the plants begin to turn yellow around the bottom. You should get from one to two tons per acre of a very valuable hay. When your hay is removed, seed rye. The next year when the rye is about one foot high, turn under, apply about one ton more of ground limestone per acre and seed alone to alfalfa.—D. W.



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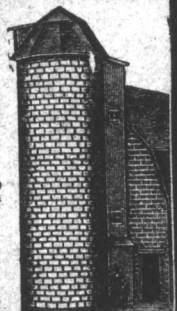
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Pile up two days' rations of hay and silage and grain; beside it put all the pails of water a cow will usually drink in two days and two nights.

The WEIGHT of that feed and water equals the weight of fresh air a cow requires during 24 hours.

If the stable were air tight and no fresh air brought in, the cow would die, just as a fire choked with ashes would soon die, though it be supplied with coal or wood.

Of course, no stable is air tight; but in the colder states, most stables are built as tight as possible, to insure warmth.

Unless sufficient ventilation is provided, this means that the cows will not get enough fresh air.

Some Fresh Air Not Enough

They will get some fresh air, and so do not die; but they get too little fresh air, hence their vitality is lowered and diseases such as tuberculosis may get started.

Health is affected and expensive feeds given; them are not properly assimilated; the milk yield falls.

But how bring in plenty of fresh air and yet have warmth?

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Mr. James and his associates, because of many years' experience in solving ventilation problems, have developed improvements.

James Ventilators and Registers, with the free James plans for constructing a ventilation system, enable any farmer to have fresh, pure air, not too cold, in the barn.

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Thirty cows will load the stable air with one and one-third barrels of water daily.

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"Steaming" is a sure sign that moisture is excessive and that the air in the stable is not being changed with sufficient frequency to keep it fresh and pure.

James System removes excess moisture.

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How about your barn? Is it "steamy"? Is it full of foul odors? Are your cows losing in health for lack of fresh air? Is impure air cutting down your milk yields?

These are intensely practical questions. To make milk requires feed, water and pure air. Why buy expensive feeds and not provide plenty of water and fresh air—water and air are free.

If you are interested in this subject of ventilation, write for our book, "The Jamesway"; and ask for the free help of our service men who have had so much practical experience in solving ventilation and other barn problems.



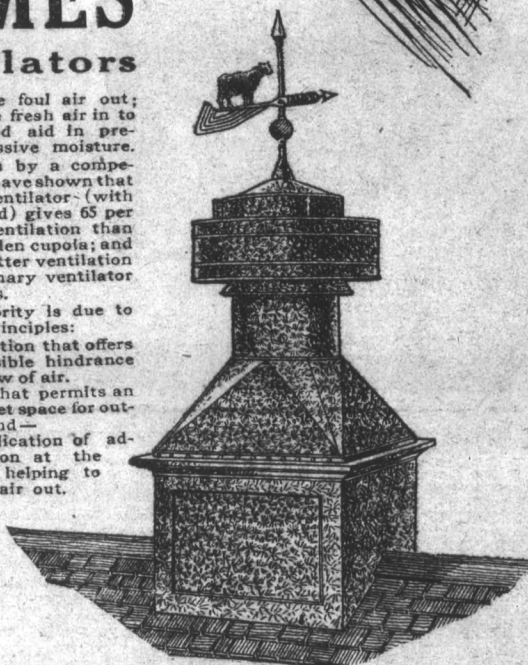
JAMES Ventilators

Help pull the foul air out; help bring the fresh air in to the cows; and aid in preventing excessive moisture.

Actual tests by a competent engineer have shown that the James Ventilator (with revolving hood) gives 65 per cent better ventilation than the usual wooden cupola; and 30 per cent better ventilation than the ordinary ventilator for dairy barns.

This superiority is due to three James Principles:

- (1) Construction that offers the least possible hindrance to outward flow of air.
- (2) Design that permits an increased outlet space for out-flowing air; and—
- (3) The application of additional suction at the proper point, helping to pull the foul air out.



Water For The Cows

Those who realize how greatly milk flow is increased by use of James Drinking Cups are reaping huge profits on their investment.

Reports based on milk records of 28 herds (739 cows) show an average increase of 2.45 lbs. per cow per day.

This is 490 lbs. in 200 days, which at \$3.30 per cwt. totals \$17.15.

The same investigation showed a saving in labor of \$2.50 and in fuel of 55c per cow during the season.

"The Jamesway" book gives full information regarding drinking cups.

Work-Saving Devices

There are many other James devices that save labor, increase milk yields, help

sanitation and improve cow health, such as Cow, Calf and Bull Pens, Feed Mangers, Calf Pail Holders, Sure-Stop Swinging Post, Swinging Cranes, "Safety First" Bull Staff, Handy Milk Stools, etc.

Also equipment for the hog barn, horse barn and beef barn.

The James Way Sunny Hog Barn provides sunshine and sun warmth on the floor of every pen two-thirds of the sunlit hours. The James Hog Barn Book, sent on request, tells all about it.

Free Dairy Barn Book

The 336 page book—"The Jamesway"—tells all about James inventions that save so much of labor, prevent spread of disease, promote better cow health, protect against dangerous bulls, make simpler the

care of calves and sick cows and increase milk yields.

Easy Installation

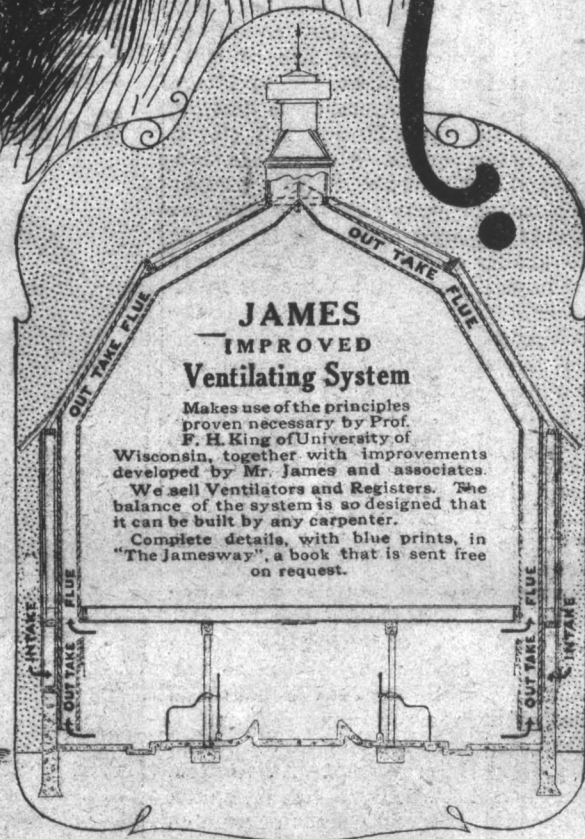
It explains the easy way of putting up carriers, setting up stalls and pens and attaching drinking cups.

Skilled help is not required, because of the ingenious James Anchors and because the equipment is assembled at the factory.

Barn Plan Service

It tells about James Barn Plan Service; the many James barn experts who are at your service—men who know what has been successful and what has not; what not to do as well as what to do in planning convenient, money-saving barns.

Their advice on barn planning, ventilation and other barn problems is free, with no charge for floor plans. Send for the book—a postal card request will bring it—get the full details of how to build a barn, how to ventilate a barn, how to cut the barn work in half, how to make more milk—and more money.



James Mfg. Co., Ft. Atkinson, Wis., Elmira, N.Y., Minneapolis, Minn.

The James way

Labor Saving Equipment for the Dairy Barn

WORLD EVENTS IN PICTURES



The first meeting of the executive committee of the National Women's Republican Party. Left to right: Mrs. John G. South, of Kentucky; Mrs. Fletcher Dobbins, of Chicago, Ill.; Mary Garrett Hay, chairman; Mrs. C. H. Severance, of Minnesota.



Photo shows, left to right: Admiral Glennon, of Brooklyn Navy Yard; Admiral Jellicoe and Charles M. Schwab; Admiral Viscount John Jellicoe was formerly commander of the British Grand Fleet.



A statue of the Scotch Poet, Robert Burns, presented to the City of Boston by Burns Memorial Association.



Miss Irene Gage, daughter of Sir William Gage, of Ontario, Canada.



Miss Carmen Aguinaldo, daughter of the famous Philippine hero. She is attending the Illinois University.



Never have the Moslem women and members of harems been allowed the liberty which they now seem to enjoy. Photo shows a group in a carriage in Cairo, Egypt, raising the Nationalist Flag after participating in an anti-British demonstration.



Some of New England's alleged "Reds," men and women, on their way to Deer Island in Boston Harbor. Lower picture shows arrival at Deer Island.



A beautiful and unusual photograph of the National Capitol Building in Washington, D. C., brilliantly illuminated on New Year's Eve.

Crooked Trails and Straight

By William MacLeod Raine

He laughed slowly, well pleased. A lazy smoldering admiration shone in his half shuttered eyes.

"So you're going to take it out of me, are you?"

A creature of moods, there came over her now a swift change. Every feature of her, the tense pose, the manner of defiant courage, softened indescribably. She was no longer an enemy bent on his destruction but just a girl pleading for the father she loved.

"Why do you do it? You are a man. You want to fight fair. Tell me he is well. Tell me you will set him free."

He forgot for the moment that he was a man with the toils of the law closing upon him, forgot that his success and even his liberty were at stake. He saw only a girl with the hunger of love in her wistful eyes, and knew that it lay in his power to bring back the laughter and the light into them.

"Suppose I can't fight fair any longer. Suppose I've let myself get trapped and it isn't up to me but to somebody else."

"How do you mean?"

"Up to your father, say."

"My father?"

"Yes. How could I turn him loose when the first thing he did would be to swear out a warrant for my arrest?"

"But he wouldn't—not if you freed him."

He laughed harshly. "I thought you knew him. He's hard as nails."

She recognized the justice of this appraisal. "But he is generous too. He stands by his friends."

"I'm not his friend, not so you could notice it." He laughed again, bitterly. "Not that it matters. Of course I was just putting a case. Nothing to it really."

He was hedging because he thought he had gone too far, but she appeared not to notice it. Her eyes had the far-away look of one who communes with herself.

"If I could only see him and have a talk with him."

"What good would that do?" he pretended to scoff.

But he watched her closely nevertheless.

"I think I could get him to do as I ask. He nearly always does." Her gaze went swiftly back to him. "Let me talk with him. There's a reason why he ought to be free now, one that would appeal to him."

This was what he had come for, but now that she had met him half way he hesitated. If she should not succeed he would be worse off than before. He could neither hold her a prisoner nor free her to lead the pack of the law to his hiding place. On the other hand if Cullison thought they intended to keep her prisoner he would have to compromise. He dared not leave her in the hands of Lute Blackwell. Fendrick decided to take a chance. At the worst he could turn them both free and leave for Sonora.

"All right. I'll take you to him. But you'll have to do as I say."

"Yes," she agreed.

"I'm taking you to back my play. I tell you straight that Blackwell would like nothing better than to put a bullet through your father. But I've got a hold on the fellow that ties him. He's got to do as I say. But if I'm not there and it comes to a showdown—if Bucky O'Connor for instance happens to stumble in—then it's all off with Luck Cullison. Blackwell won't hesitate a second. He'll kill your father and make a bolt for it. That's one reason why I'm taking you. I want to pile up witnesses against the fellow so as to make him go slow. But that's not my main

object. You've got to persuade Luck to come through with an agreement to let go of that Del Oro homestead and to promise not to prosecute us. He won't do it to save his own life. He's got to think you come there as my prisoner. See? He's got to wrestle with the notion that you're in the power of the greatest villain that ever went unhung. I mean Blackwell. Let him chew on that proposition a while and see what he makes of it."

She nodded, white to the lips. "Let us go at once, please. I don't want to leave father alone with that man." She called across to the corral. "Manuel, saddle the pinto for me. Hurry!"

They rode together through the wind swept sunlit land. From time to time his lazy glance embraced her, a supple graceful creature at perfect ease in the saddle. What was it about her that drew the eye so irresistibly? Prettier girls he had often seen. Her features were irregular, mouth and nose too large, face a little thin. Her contour lacked the softness, the allure that in some women was an unconscious invitation to cuddle. Tough as whipcord she might be, but in her there flowed a life vital and strong; dwelt a spirit brave and unconquerable. She seemed to him as little subtle as any woman he had ever met. This directness came no doubt from living so far from feminine influences. But he had a feeling that if a man once awakened her to love the instinct of sex would spring full-grown into being.

They talked of the interests common to the country, of how the spring rains had helped the range, of Shorty McCabe's broken leg, of the new school district that was being formed. Before she knew it Kate was listening to his defense of himself in the campaign between him and her father. He found her a partisan beyond chance of conversation. Yet she heard patiently his justification.

"I didn't make the conditions that are here. I have to accept them. The government establishes forest reserves on the range. No use ramming my head against a stone wall. Uncle Sam is bigger than we are. Your father and his friends got stubborn. I didn't."

"No, you were very wise," she admitted dryly.

"You mean because I adapted myself to the conditions and made the best of them. Why shouldn't I?" he flushed.

"Father's cattle had run over that range thirty years almost. What right had you to take it from him?"

"Conditions change. He wouldn't see it. I did. As for the right of it—well, Luck ain't king of the valley just because he thinks he is."

She began to grow angry. A dull flush burned through the tan of her cheeks.

"So you bought sheep and brought them in to ruin the range, knowing that they would cut the feeding ground to pieces, kill the roots of vegetables with their sharp hoofs, and finally fill the country with little gullies to carry off the water that ought to sink into the ground."

"Sheep ain't so bad if they are run right."

"It depends where they run. This is no place for them."

"That's what you hear your father say. He's prejudiced."

"And you're not, I suppose."

"I'm more reasonable than he is."

"Yes, you are," she flung back at him irritably.

Open country lay before them. They had come out from a stretch of heavy underbrush. Catclaw had been snatching at their legs. Cholla had made the traveling bad for the horses. Now she put her pony to a canter that for the time ended conversation.

CHAPTER XI.

A Compromise.

Luck lay stretched full length on a bunk, his face to the roof, a wreath of smoke from his cigar traveling slowly toward the ceiling into a filming blue cloud which hung above him. He looked the personification of vigorous full-blooded man-hood at ease. Experience had taught him to take the exigencies of his turbulent life as they came, nonchalantly, to the eye of an observer indifferently, getting all the comfort the situation had to offer.

By the table, facing him squarely, sat Jose Dominguez, a neatly built Mexican with snapping black eyes, a manner of pleasant suavity, and an ever-ready smile that displayed a double row of shining white teeth. That smile did not for an instant deceive Luck. He knew that Jose had no grudge against him, that he was a very respectable citizen, and that he would regretfully shoot him full of holes if occasion called for so drastic a termination to their acquaintanceship. For Dominguez had a third interest in the C. F. ranch, and he was the last man in the world to sacrifice his business for sentiment. Having put the savings of a lifetime into the sheep business, he did not propose to let anybody deprive him of his profits either legally or illegally.

Luck was talking easily, in the most casual and amiable of voices.

"No, Dominguez, the way I look at it you and Cass got in bad this time. Here's the point. In this little vendetta of ours both sides were trying to

keep inside the law and win out. When you took out that grazing permit and cut me off the reserve that was another time you scored heavily. A third time was when you brought 'steen thousand of Mary's little lambs baaing across the desert. Well, I come back at you by deeding the Circle C to my girl and taking up the Del Oro homestead. You contest and lose. Good enough. It's up to you to try another move."

"Si, senr" and we move immediate. We persuade you to visit us at our summer mountain home where we can talk at leisure. We suggest a compromise."

Luck grinned. "Your notion of a compromise and mine don't tally, Jose. Your idea is for me to give you the apple and stand by while you eat it. The trouble is that both parties to this quarrel are grabbers."

"True, but Senor Cullison must remember his hands are tied behind him. He will perhaps not find the grabbing good," his opponent suggested politely.

"Come to that, your hands are tied too, my friend. You can't hold me here forever. Put me out of business and the kid will surely settle your hash by proving up on the claim. What are you going to do about it?"

"Since you ask me, I can only say that it depends on you. Sign the relinquishment, give us your word not to prosecute, and you may leave in three hours."

Cullison shook his head. "That's where you get in wrong. Buck up against the law and you are sure to lose."

"If we lose you lose too," Dominguez answered significantly.

The tinkle of hoofs from the river bed in the gulch below rose through the clear air. The Mexican moved swiftly to the door and presently waved a handkerchief.

"What gent are you wig-wagging to now?" Luck asked from the bed. "I thought I knew all you bold bandits by this time. Or is it Cass back again?"

"Yes, it's Cass. There's someone with him too. It is a woman," the Mexican discovered in apparent surprise.

"A woman!" Luck took the cigar from his mouth in vague unease. "What is he doing here with a woman, I wonder."

The Mexican smiled behind his open hand. "Your question anticipates my own, Senor. I too ask the same."

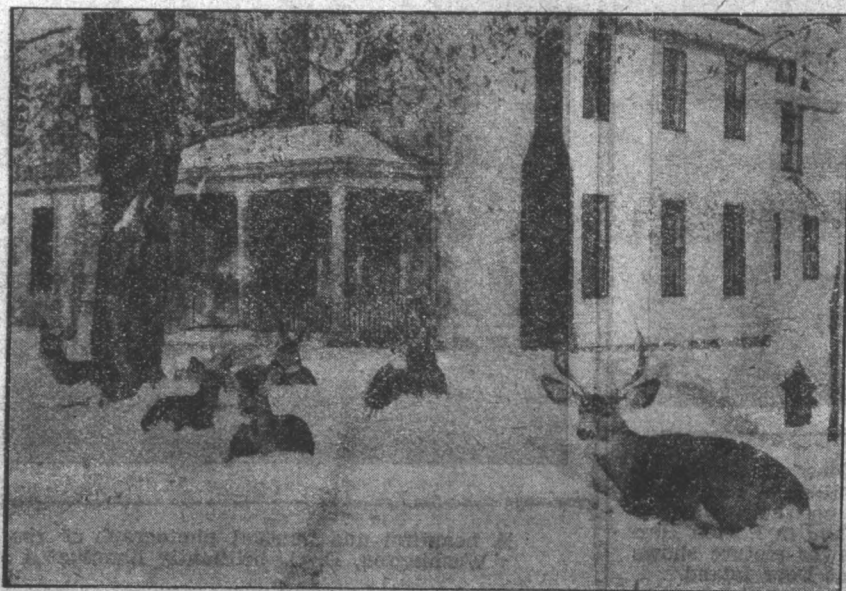
The sight of his daughter in the doorway went through the cattleman with a chilling shock. She ran forward and with a pathetic cry of joy threw herself upon him where he stood. His hands were tied behind him. Only by the turn of his head and by brushing his unshaven face against hers could he answer her caresses. There was a look of ineffable tenderness on his face, for he loved her more than anything else on earth.

"Mr. Fendrick brought me," she explained when articulate expression was possible.

"He brought you, did he?" Luck looked across her shoulder at his enemy, and his eyes grew hard as jade. "Of my own free will," she added.

"I promised you a better argument than those I'd given you. Miss Cullison is that argument," Fendrick said.

The cattleman's set face had a look more deadly than words. It told Fendrick he would gladly have killed him where he stood. For Luck knew he was cornered and must yield. Neither Dominguez nor Blackwell would consent to let her leave otherwise.



Heavy Snows Drive the Deer to the Villages in Search of Food.

"He brought me here to have a talk with you, Dad. You must sign any paper he wants you to sign."

"And did he promise to take you back home after our talk?"

"Miss Cullison would not want to leave as long as her father was here," Fendrick answered for her glibly with a smile that said more than the words.

"I'm going to hold you responsible for bringing her here."

Fendrick could not face steadily the eyes of his foe. They bored into him like gimlets.

"And responsible for getting her back home just as soon as I say the word," Luck added, the taut muscles standing out in his clenched jaw.

"I expect your say-so won't be final in this matter, Luck. But I'll take the responsibility. Miss Cullison will get home at the proper time."

"I'm not going home till you do," the girl broke in. "Oh, Dad, we've been so worried. You can't think."

"You've played a rotten trick on me, Fendrick. I wouldn't have thought it even of a sheepman."

"No use you getting crazy with the heat, Cullison. Your daughter asked me to bring her here, and I brought her. Of course, I'm not going to break my neck getting her back home where she can 'phone Bolt or Bucky O'Connor and have us rounded up. That ain't reasonable to expect. But I aim to do what's right. We'll all have supper together like sensible folks. Then Jose and I will give you the cabin for the night if you'll promise not to attempt to escape. In the morning maybe you will see things different."

Fendrick calculated not without reason that the best thing to do would be to give Kate a chance for a long private talk with her father. Her influence would be more potent than any he could bring to bear.

After supper the door of the cabin was locked and a sentry posted. The prisoners were on parole, but Cass did not on that account relax his vigilance. For long he and his partner could hear a low murmur of voices from within the cabin. At length the lights went out and presently the voices died. But all through the night one or the other of the sheepmen patrolled a beat that circled around and around the house.

Fendrick did not broach the subject at issue next morning till after breakfast.

"Well, what have you decided?" he asked at last.

"Let's hear about that compromise. What is it you offer?" Luck demanded gruffly.

"You sign the relinquishment and agree not to make us any trouble because we brought you here, and you may go by two o'clock."

"You want to reach Saguache with the relinquishment in time to file it before I could get to a 'phone. You don't trust me."

Fendrick smiled. "When we let you go we're trusting you a heap more than we would most men. But of course you're going to be sore about this and we don't want to put temptation in your way."

"I see. Well, I accept your terms. I'll make you no legal trouble. But I tell you straight this thing ain't ended. It's only just begun. I'm going to run you out of this country before I am through with you."

"Go to it. We'll see whether you make good"

"Where is that paper you want me to sign?"

Luck dashed off his signature and pushed the document from him. He hated the necessity that forced him to surrender. For himself he would have died rather than give way, but he had to think of his daughter and of his boy Sam who was engaged in a plot to hold up a train.

His stony eyes met those of the man across the table. "No need for me to tell you what I think of this. A white

man wouldn't have done such a trick. It takes shearers and greasers to put across a thing so damnable as dragging a woman into a feud."

Fendrick flushed angrily. "It's not my fault; you're a pigheaded obstinate chump. I used the only weapon left to me."

Kate, standing straight and tall behind her father's chair, looked at their common foe with uncompromising scorn. "He is not to blame, Dad. He can't help it because he doesn't see how despicable a thing he has done."

Again the blood rushed to the face of the sheepman. "I reckon that will hold me hitched for the present, Miss Cullison. In the meantime I'll go file that homestead entry of mine. Nothing like living up to the opinion your friends have of you."

He wheeled away abruptly, but as he went out of the door one word came to him.

"Friends!" Kate had repeated, and her voice told fully the contempt she felt.

(Continued next week).

LITTLE FARM FABLES.

BY AUNT QUILLIA.

A FINE fruitful hickory tree standing on a popular country road once became very envious of a wild rose growing near. So exquisite were its pink blossoms, so clean and shining its thick foliage, that few passing failed to stop and admire its beauty.

One day more autos than usual halted to allow their fair occupants a chance to examine its loveliness more closely, whereupon the tree began this complaint: No one ever stops to compliment me; no admiring glances are ever directed my way; no caressing hand is ever laid upon my leaves. In fact, I am not always treated with ordinary respect. Those rude boys yonder seem to have a fine regard for the rose, handling her gently, almost tenderly, while they pass me unnoticed save in the fall of the year when they club and stone and shake me—not very severely it is true—but in a most familiar and humiliating manner.

Indeed, I have often wished the old man who passes here with his milk and eggs on his way to the summer resort would cut me down and carry me home for stove wood on his odd little cart. It would not be long before the flames would wipe me off the face of the earth and no one would know I had ever existed.

A robin who had listened to the hickory's complaint here gave the spray on which she was sitting an airy tilt and remarked: "Perhaps I can comfort you a bit, my friend. I know those boys and it is neither love, admiration, nor even common respect that makes them handle the rose so deferentially. They fear her; they dread her thorns; they shrink lest she tear their hands. I chanced to hear them talking the other day and they agreed that of all growing things they despised the rose the most. They confessed that they dared not do otherwise than handle her softly on account of the vicious little spikes that cover her. All declared they would never go near her were it not for the resorters who pay them for her blossoms."

"Moreover, they unanimously agreed that of all nature's gifts they liked you best, for with a little bantering and teasing in the fall you never failed to heap their hats full of luscious nuts."

"And now I will finish by telling you what I heard an experienced educator say not long ago. I was sitting in a tree up there on the campus when a teachers' convention was in progress. The subject under discussion was school management and this old pedagogue arose and said: 'Young gentlemen, young ladies, never forget that familiar affection is better than deferential dislike.'"

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Begging for their Breakfast.

WITH the rapid depletion of our supplies of wild furs the question frequently is asked, "When is the end, and where are prices going to?" This is asked with genuine trepidation, since we have learned to believe that furs are indispensable. The pioneers, the trappers, have pushed further into the wilderness, each year, returning with smaller supplies. In the early days of this country the profits made by the fur buyer who went boldly to the frontiers were very much greater than those of the conservative agriculturist who followed later. Now, however, the tables are to be turned; the farmer, that is the fur farmer, is about to reap the greater profit and to continue in business long after the farthest outpost trapper or fur buyer has gone down in history along with the other romantic pictures of pioneer days.

The fur farmer is here. Perhaps you have not heard of him, but that is only because you do not happen to live in one of several rather large districts in the northern part of this country. He may be engaged in growing muskrats, minks, skunks, or foxes; and in the future, since about half the fur bearers of North America seem to be suitable for domestication, he may be farming such animals as martens, otters, fishers, blue foxes, raccoons, or beavers.

Recently I dropped off the train at one of these fur-farming centers just to look about, and if you don't believe people in this part of the country are fur fans just listen to this. In the year 1916, only four seasons ago, Muskegon, Michigan, and the surrounding country had not so much as heard of silver black foxes. Now it has nine fox ranches, and during that period more than \$320,000 worth of silver black foxes have been sold from them. This is not a story of frenzied finance in foxes, although it may so appear until you are initiated into the secrets of the business. Back in 1912 a story of that kind very well could have been written about the operations in fox-farming syndicates on Prince Edward Island in Canada, but the business both in Canada and here since then has rapidly approached a pelt basis; that is, the prices of breeding stock are more on a par with what the skins of the animals are worth as furs.

The silver fox was one of, if not the first, fur-bearing animal to be domesticated for the purpose of raising fur. Possibly this was because of the high prices paid for the skins, due to their scarcity and beauty. The silver fox is said to be a phase of the red fox, or at least he is of the same species. Occasionally the common red vixen will throw a silver or part silver fox, but the phase of silver or black silver has been so long established and the animals breed so true to type that they are recognized as a distinct type of fox. In the typical silver fox the black replaces the red of the ordinary fox, the silver remaining on the guard hairs on the upper parts. Thus the silver is a beautiful black overlaid by a sprinkling of silvery white, with black tail

SILVER FOX FARMING

By Robert E. Borradaile

tipped with white. Even more rare is the black fox which has no silver or white hairs with the exception of the tip of his tail. Between the silver and the common red lie all the variations and degrees of mixtures of colors, and the value of their pelts is determined largely by the degree of mixture.

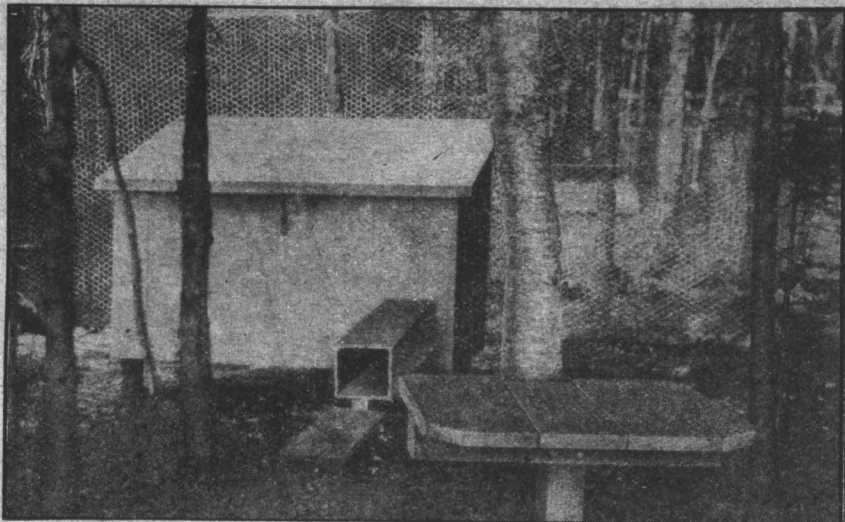
The first ranch to start business in the vicinity of Muskegon was the Silver Black Fox Company, from which most of the other ranches have secured all or part of their foxes. These are the Wolverine, Muskegon, Sparta, and Peninsula Silver Black Fox Companies, and ranches owned by Messrs. Tuplin, Workman, Joslin and Ranchford. The first ranch to introduce the foxes in 1916 purchased one pair at \$10,000, two pairs of pups at \$5,000, and one pair at \$5,000. Of these four pairs, three pairs proved to be breeders and at the end of the first year there were nine pairs; by the end of the second year forty pairs; third year eighty-five pairs, and fourth, one hundred and nine pairs. This ranch now has only twenty-seven pairs, but in lieu of the other foxes it has about \$160,000 for four years' work with the silvers.

But how are people induced to buy foxes at such prices? It's simple, yet alluring. Silver black foxes are to the fur trade what diamonds are to the jewelry trade. They are fur de luxe, and in the past the very best of the foxes produced in this country have gone to Europe where they have sold at fabulous prices. For instance, at the mid-winter sale of furs at St. Louis last year one thousand two hundred fox skins brought \$360,000. They were foxes of kinds other than cross, blue, or white; that is, they were all grades of black fox—from the rusty, staggy kind to the wonderful pelt of the true silver to the silver black fox. The average run of the skins brought \$500 to \$800 and the best \$1,350. With these prices for pelts, the standard price about Muskegon for a pair of young silver of the silver black fox. The av-

es, \$2,500, does not seem so staggering, especially in view of the fact that the foxes are kept on the ranch for a year and the buyer is guaranteed that his pair will have at least one pair of pups which he may take with him early in the autumn. Thus he virtually gets at least four foxes for his money, or at the rate of not to exceed \$625 apiece.

Practically the only silver foxes which can be purchased in the vicinity of Muskegon are young pups, and the demand at present far exceeds the supply, pups frequently being sold before they are born. Not all ranches, of course, accommodate the purchaser by

proper care can make them. The tamest of the animals will come when called and will eat from the feeder's hand; the wild ones slink into their dens as silently as a shadow. At feeding time, however, the foxes pace back and forth in their yards and the landscape seems to be literally alive with black bodies, shining eyes, and tails with pure white tips. For nature does not change materially while the animals are in captivity, so the breeders try to make their surroundings as similar to the foxes' wild habitat as possible. The dens in which the animals are sheltered and the young are born and the yards in



An Inexpensive Type of Den and Dining Table for Mr. and Mrs. Fox.

guaranteeing what the foxes will do in the way of producing young or the quality of the offspring. In such cases it is possible to pick up a pair of good eight-months-old pups at about \$1,200. On the biggest ranch, where it has been the practice to keep the foxes for their patrons, there are now about two hundred silver black foxes, probably the largest collection in this country.

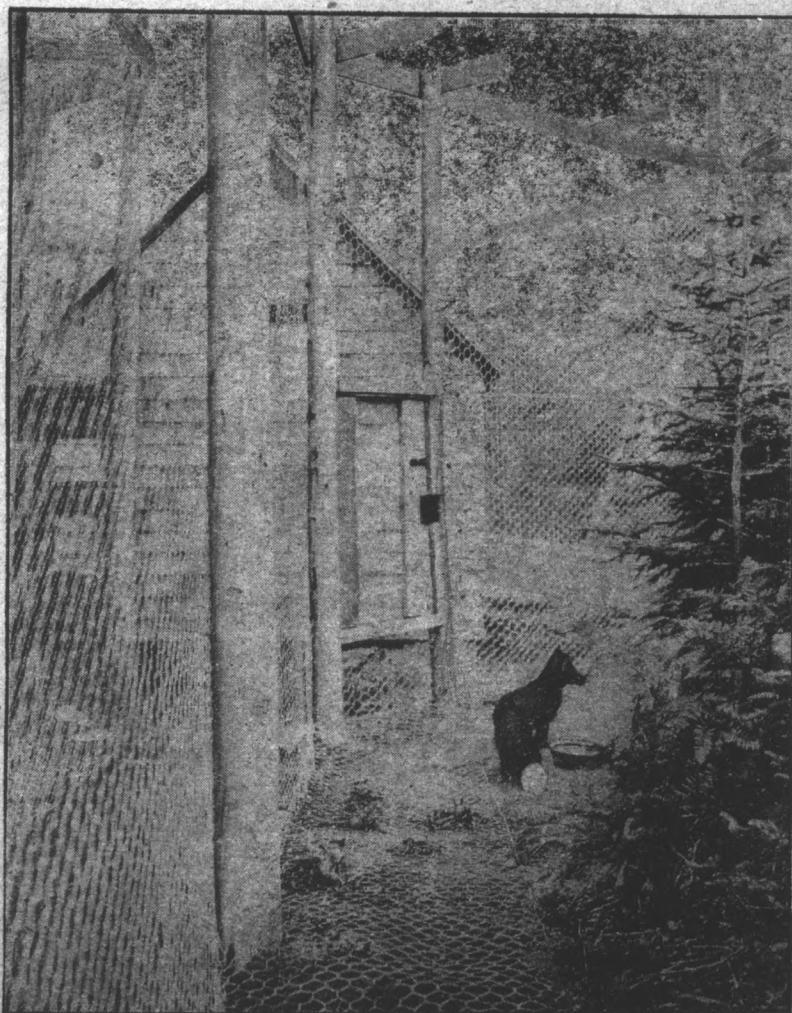
These animals are as "foxy" as when wild, and their furs are as black as ink and as glossy as good food and

which they run are surrounded by a guard fence about ten feet high which has an inward overhang of about eighteen inches to prevent the foxes from climbing over the top of the fence.

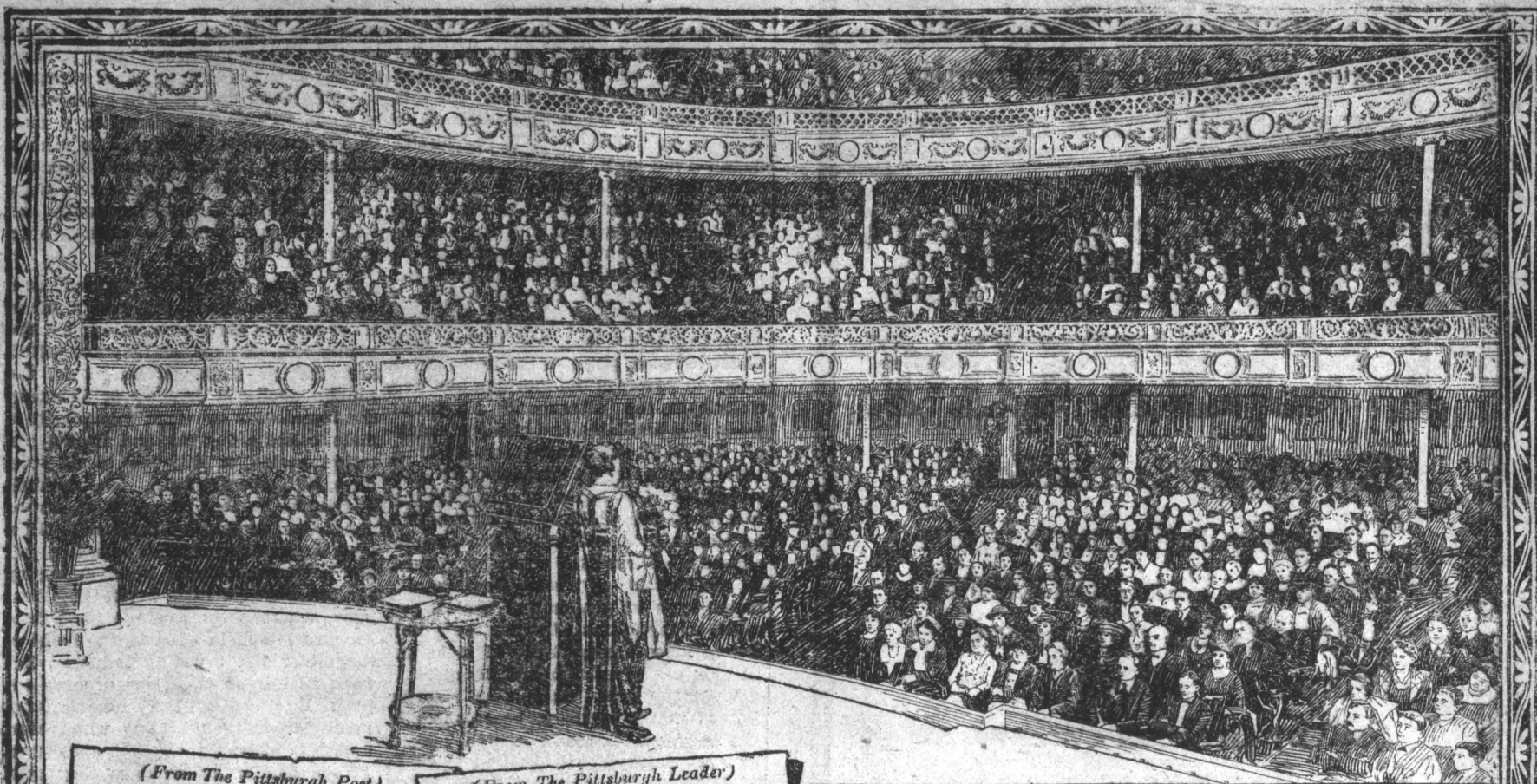
The yards or runs, varying in size from ten by sixty-five feet to twenty-five by thirty feet, which contain the dens, are similarly constructed, only the bottom wire is of finer mesh, about one and three-quarter inches, and there is an extension of the wire to form a mat about three feet wide all around the inside of the run. This is pinned to the ground and prevents the foxes from digging out. Near the center of the run is placed the box which forms the den and upon which the foxes like to lie, curled up into a ball, with sharp eyes apparently looking in both directions at once. This box is placed upon posts about six inches high; the top is removable, and on the inside is a small box with a hole in the end which is the nest proper. It contains no straw or leaves, as one might expect, but is a strictly dry, sanitary affair. The exit for the foxes is through an elbow spout or corridor which enables the animals to retire to a den or nest which is dark and secluded. On the majority of the fox ranches a double wall is used in the construction of the dens, but on the Michigan Silver Black Fox Company's ranch there has been developed an underground den which will be used especially in winter. This underground den is fairly similar to the one on top of the ground with the exception of a ventilation tube. A manhole about six feet deep is built at the back of the den so it is possible easily to have access to the foxes at all times. These dens should be warm in winter, since they are set in the ground about six feet and the soil is dry sand.

Foxes are practically omnivorous, yet when in captivity and their proper development depends to a large extent upon their food, it is indeed an important item. When wild their food is made up largely of mice, birds, rabbits and other small animals, insects, eggs, and

(Continued on page 136).



Breeders Try to Make the Surroundings Similar to the Foxes' Wild Habitat.



(From The Pittsburgh Post)

RECORDS VIE WITH SINGERS IN OWN SONGS

**Madame Rappold and
Laurenti in "Miracle
Concert."**

Madame Rappold sang the initial number on the program. In the midst of it her lips ceased to move but the song went on. Slowly it dawned on the astonished audience that the artist was no longer singing, though her voice came forth to them as clearly and sweetly as before. Again she sang, and the audience only knew it was the living Madame Rappold, because of the motion of her lips. Her lips ceased to move—but her voice continued. The same magical effect was obtained when Mr. Laurenti sang.

(From The Pittsburgh Gazette-Times)

Record Reproduces Voice Accurately

**Demonstration Given in Carnegie
Music Hall with Edison
Phonograph**

A demonstration of the exactness with which the human voice may be reproduced on a phonograph record was given last night in Carnegie Music Hall with the new Edison machine.

Several selections were sung personally by Mme. Marie Rappold, celebrated soprano, and Mario Laurenti, baritone of the Metropolitan Opera Co. Simultaneously the same selections were produced on the phonograph, and with a subdued lighting effect, it was impossible to distinguish the actual voices from the reproduction.

(From The Pittsburgh Leader)

Rappold and Laurenti Entertain Big Audience At Carnegie Music Hall

The tones which came from the New Edison phonograph matched those from the living artist so perfectly that it was impossible to detect any difference. The instrument produced not an echo or copy, but the real thing—the voices of Mme. Rappold and Mr. Mario Laurenti, untainted by any mechanical transformations, unspoiled by any metallic ring.

(From The Pittsburgh Sun)

Singers and Music Boxes in Concert

**Vocal and Metallic Tones Unable
to Be Distinguished**

A unique concert was given last evening in Carnegie Music Hall in which Mme. Marie Rappold, well-known American soprano, and Mario Laurenti, noted young Italian baritone, took part. The audience heard not one Mme. Rappold and one Mr. Laurenti, but two, the phenomenon being accomplished by means of a cabinet which stood on the stage beside the performers and matched their performance, note for note and tone for tone.

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without question or quibble—to be able to sustain precisely the same test as the test made at Pittsburgh.

On the night of September 30th, two thousand and six hundred critical Pittsburgh music lovers gathered at Carnegie Hall to learn whether it is true that Thomas A. Edison's new phonograph sings and plays so naturally that the human ear can not tell whether it is listening to the phonograph or to living artists. Read what the Pittsburgh newspapers said next day.

Edison spent three million dollars in cold cash on experimental work to produce the first Official Laboratory Model. The instrument used at Pittsburgh was a duplicate of the original three million dollar model. The Edison dealer in your town also has exact duplicates of it and will guarantee them to be capable of doing everything that was done by the instrument used at Carnegie Hall, Pittsburgh, on September 30th, 1919.

The best is not too good for you. Hear the New Edison; investigate the tests (4000 in all), similar to the Pittsburgh test, that have been made in every large city from Maine to California by fifty great singers and instrumentalists, before audiences aggregating more than three million people.

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berries. When domesticated they are fed horse meat, beef, veal, mutton, rabbits, fish, milk, bread, rice, wheat, mush, boiled carrots, turnips or potatoes, eggs and fresh fruits. On the largest ranch in Michigan during the autumn an old horse carcass lasted about three and a half days. On this ranch many an old dobbie after doing his best as a slave to man, has finally been served up in tempting morsels to silver foxes so that they in turn may serve milady and protect her from the chilly blasts of winter and the withering heat of summer. During the warm months a mixture of boiled, cracked rice and eggs is fed, along with a small piece of horse meat about two inches wide, five inches long, and half an inch thick. This is given to the foxes twice a day, at seven in the morning and five o'clock in the afternoon. At times when it is available and cheaper, cracked wheat is substituted for rice. A little lime water is introduced to help strengthen the bones of the growing foxes, and fish which is not marketable as human food and which can be purchased at about two cents per pound is fed twice a week. Occasionally fruits, such as grapes and apples, are given to the animals to vary their diet. Young foxes are not allowed meat until they are about four months old.

With the great surplus of inferior horses in the country, horse meat is the cheapest fox food obtainable. Horses are usually purchased at \$2.00 to \$3.00 above the price of horse hides. Just now the hides bring about \$12, making the cost of the horse \$14 to \$15. On the average these animals dress about three hundred and fifty pounds, which makes the meat ready to feed cost less than a cent per pound. On this Michigan ranch where so much meat is required, it has been found that it required too much work to cut up the meat during the winter and pack it in barrels in ice and sawdust for summer consumption, and so a \$7,500 refrigeration plant is now about completed. This will make it possible to kill a number of horses at once and to freeze their carcasses until they are needed for cutting up into small pieces for the foxes. After practically all of the meat has been removed from the bones they are boiled with the offal and tripe and the meat separated and fed to hogs, and the bones are sold at about \$20 per ton.

The feeding of foxes is not a routine matter; the successful feeder studies his animals and their wants and needs. Not all fox ranchers are agreed as to what are the best feeds; some feed meat only once a day; others feed more milk and bread or mush. During the time when the cubs are expected the vixen or female is fed very carefully; laxative foods, such as liver and tripe, are sometimes given in place of milk and eggs. All diseased or tainted meat or food of any kind is scrupulously avoided. When feeding a fox preparatory to killing for his skin, he is fed

oily food and well fattened, since animals in this condition have much better fur. Breeding animals are kept thin and are never given more food than they will eat promptly. The meat is placed upon the ground and the cereal is fed in round pans about six inches in diameter and one and a half inches high. These are placed in a rack on the ground and fastened in such a manner that the foxes cannot spill the food. Each rack will hold six to eight pans, since there are frequently six foxes in a yard when the cubs or pups are present.

To anyone who cares for wild animals or live stock, the grown silver foxes are intensely interesting; but the young cubs or pups, as they are called, are the greatest attraction of the ranch. Along in January or February the female fox or vixen mates with a male, called a dog fox, and after a gestation period of fifty-one to fifty-two days, the pups are born. The number, of course, varies, from one to six or more. On some of the ranches in Michigan the number of foxes born to a pair has been exceedingly high, averaging for one ranch a little better than four pups, whereas the average for Prince Edward Island in Canada, the home of the silver fox breeding industry, has been as low as two pups or only one pair. In size these baby foxes are not much larger than kittens when born, and, like kittens, their eyes are closed. At the end of fifteen days they open their sharp little eyes and see where they get their dinner and begin to make the acquaintance of old mother silver. The silver foxes, like the ordinary reds you see in the parks or as furs, have extremely pointed noses, but the little ones for several weeks have little pug noses and their ears hang down like those of a hound dog, instead of standing at attention as they do when grown. Those who have watched the development of many pups say that as the nose becomes elongated the ears prick up and that the process is a very short one—possibly it is at the time they get their first whiff of a hound dog.

On some ranches it is the practice to separate the male and female foxes after breeding; on others the two are kept together at all times, the statement being made that the male is of considerable help to the female while she is feeding her young. However, on all ranches they are separated if they show signs of quarreling or injuring their young. When the young are born the mother stays with them constantly for the first three days. By the time a month has elapsed they are able to appear outside the den and in six weeks' time they are eating some solid food. They may then be weaned. The early weaning is a distinct advantage, as it enables the owner to eradicate the intestinal worms which are frequently found in them.

In the Muskegon vicinity last year



A 6x20-ft. Fox Farm in a City Back Yard.

losses from worms were heavy. It had always been the custom to let the vixen have entire charge of the pups until she brought them out of the den at six to eight weeks of age, the theory being that since the vixen is a highly nervous animal she would kill the pups if interfered with in any way. Thus the pups died of worms before the owners had seen them. It was found that the pups could be wormed when three weeks old or even younger, so next year ranchers are planning to worm the pups at a much earlier age. It is not a difficult task to rid old or young foxes of worms, the danger lies in letting worms multiply without prompt treatment. All of the foxes on the ranches are now wormed periodically and systematically. Various vermifuges are given, mostly in capsule form with the food. The Michigan ranch, however, plans to give it to the foxes next year in liquid form by the syringe route, so as to make sure that the foxes all get the medicine. This method also has an advantage in that the foxes are not fed for twenty-four hours prior to the giving of the vermifuge and with their bodies without food the medicine gives results more quickly.

Aside from worms of several kinds, the diseases of foxes are not many and are of small consequence. Lice and fleas are about the only other trouble to which ranch owners give attention. In the wild state foxes are known to be bothered with fleas, but it is said that they have a very effective way of ridding themselves of the pests. The fox finds a shallow place in a river or lake and then slowly backs into the water until he is covered with the exception of his nose. The fleas jump ahead of the water and finally all congregate on his nose, which he quickly dips and kills the fleas.

With the domesticated silver fox it is not quite so simple a matter. The fox is caught in his den and a box with trap doors in each end is inserted in the tube or corridor, leading from his den to the ground. The fox is then forced to enter the long box, which is just large enough to accommodate his body, and the doors are closed. An opening in one side of the box allows the fox to push his nose through. The whole outfit, fox and box, is then dipped in a barrel containing a tar compound disinfectant and about thirty gallons of water. The only part of the fox's anatomy which is not dipped is the tip of his nose, and that is disinfected and cleaned by means of a brush. This tar compound not only rids the fox of fleas but is said to be beneficial to the fur and skin. While the fox is being dipped, of course, it is necessary to spray the dens and runs so that he will return to clean quarters. Not all ranchers practice spraying and dipping their foxes, but where this is done the animals are more healthy, the fur is better, and there is no objectionable smell about the ranch.

The location of the ranch, as well as the care of the animals and their feed, has something to do with the quality of the fur. The ranch should be located on ground that is easily drained and will not retain moisture long after rains. Coarse sand is ideal for this purpose and is easy to keep clean. Ample shade is furnished on most ranches. This answers the dual purpose of keeping the hot sun of summer from "burning" the foxes' fur, and in making the pens a little more secluded. Hot, short summers are not objectionable, but it is essential that the win-

ters are cold so the fur will become prime. As a general rule the guide to the location of silver black fox ranches should be the quality of fur produced by wild animals in the district under consideration. All of the ranches in this country are located in northern states and in those areas where fur is known to become prime in the winter and for which highest prices are paid. Fox ranches are now established in Maine, Vermont, New Hampshire, Massachusetts, New York, Michigan, Ohio, Wisconsin, Minnesota, Missouri, Oregon, Washington and Alaska, and in all of the provinces of Canada. In fact this industry has been transplanted from Canada. Prince Edward Island, in the Gulf of St. Lawrence, is the home of the industry, which started in 1891. It grew slowly at first, but by 1910 the shipment of silver furs was the finest ever received on the London market, the sales averaging \$1,386 apiece. By this time also the industry had started in New Foundland, Maine, Ontario, Michigan and Alaska. Then followed a period of high finance in foxes. Syndicates were formed in Canada with the blue sky as the limit and the silver fox industry as the goat. Fox ranches were capitalized at excessive figures and breeding foxes sold as high as \$33,000 per pair. Of course, this could not continue forever, as even the high prices at which silver fox pelts sold would not justify any such reckless prices. Something was due to squeeze the water out of the business and it was the war that did it. The prices of breeding foxes hit the toboggan in 1914 and took a good, long slide. Those persons who had bought at the fabulous prices, of course, took a heavy loss. However, the industry on the Island has gotten back onto its feet, and those who now own foxes are optimistic and predict big things for the future breeders of silvers. The inflation of values has been punctured, and foxes are selling at prices which are more commensurate with the current value of their skins for furs.

The industry is expanding rapidly in this country, and the demand for breeding stock is so keen that comparatively few of the foxes raised this year will be marketed for their fur. Certainly none of the better breeding animals will be sold, although a few unmated dogs may be marketed as fur. This is true despite the fact that many breeders expect the price of silver fox pelts to be higher this year than for years past.

BOYS' AND GIRLS' CLUB MEETING POSTPONED.

CROWDED conditions at last year's meeting have caused the postponement of Club Week, the annual gathering of Michigan boys' and girls' club leaders and county champions, from Farmers' Week in February, the time at which these meetings are usually held. While no definite date for the gathering has been set, club authorities announce that it will probably be held some time in June.

"A great many people over the state are under the impression that Club Week is to be held during Farmers' Week," says Wm. A. Anderson, Assistant State Leader of Boys' and Girls' Clubs. "A short conference of club leaders will be held at this time, but the big meeting, including the schools for county champions, has been postponed."



—the Wise Man Hauls Limestone Ammonia and Potash—Now—

Anyone who will need a new supply of any of these three plant essentials this spring should order and haul **now**.

You have the time now. Your team is idle. You will reduce the highest single cost in the application of a fertilizer-hauling—to a minimum, if you haul **now**.

You know freight cars are scarce. Ordering now insures delivery—ordering later may mean delay.

Take Advantage of Our Special Offer

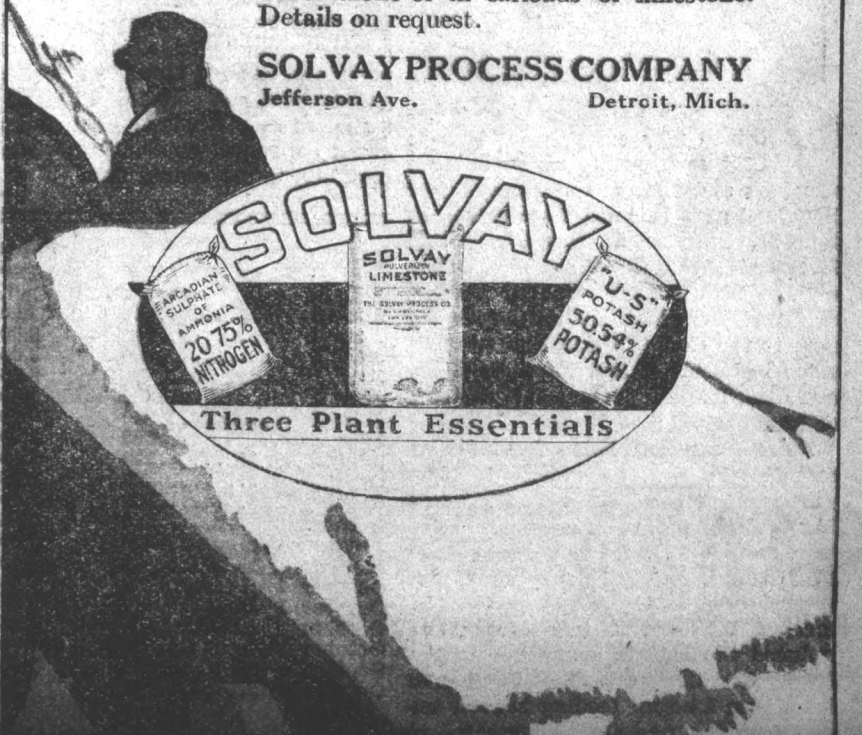
So that you may order Solvay Pulverized Limestone, Arcadian Sulphate of Ammonia, or "U-S" Potash now, without inconvenience, and at a high saving to yourselves, we have made the following generous proposition to all of our customers in order to be of further service to them.

Shipments of these materials made during January and February will not be billed until April 1st, 1920, at a 3% discount until April 10th, or net on or before July 1st, 1920.

A Special Offer on Sowers

Are you interested in a lime and fertilizer sower? If you are you will be interested in a special arrangement we have made with the John Deere Plow Company which enables us to offer you the Van Brunt Lime and Fertilizer Sower for shipment from stock which we maintain at Sibley, Michigan. Prompt shipments either alone or in carloads of limestone. Details on request.

SOLVAY PROCESS COMPANY
Jefferson Ave. Detroit, Mich.



Our Boys and Girls Department

A Message to the Farm Boys and Girls of Michigan

By Governor Albert E. Sleeper

THIS message to the farm boys and girls of Michigan from the Governor of our state is the first of a series of messages written expressly for our boys and girls by men of state and national reputation, men who are leaders in Industry, Education and Statesmanship, and whose keen minds and broad experiences enable them to speak to us in a prophetic vein.

These men realize the momentous part that the farmer folk of tomorrow are to play in shaping our country's welfare, and they are bringing to you their message of encouragement expressing their hope and their confidence in you and forecasting to you the opportunities that will be available to the farmers of our land a few years hence.

DEAR BOYS AND GIRLS:

The Editor has asked me to write you a brief message, which I gladly do. You who were born on the farms of Michigan have in these days many opportunities and privileges which were denied your fathers and mothers. You have telephones, automobiles and rural mail delivery, bringing to your doors daily the best of periodicals and newspapers, and altogether the advantage in the way of living which formerly belonged to the dwellers in the cities has really been transferred to you. With the coming of good roads your condition will be still further improved.

In times past many of the boys and girls who grew up on the farms yielded to the lure of the city, and it would probably astonish you to learn how many of the present-day leaders in commerce and in the professions have been recruited from the ranks of those who were born on the farms; but, while this is true, it is also true that farming now offers a real career to any ambitious young man or young woman. Educational authorities are waking up to the fact that the training in our primary and secondary schools ought to follow such lines as will tend to keep

the boys and girls on the farm rather than drive them to the towns and cities.

Farming is the oldest business in the world. It dates back to the time of our first parents.

"When Adam delved and Eve span
Who was then the gentleman?"

And farming is today more of a business than ever before. It is the greatest of all our manufacturing industries. Indeed, its value in dollars and cents is greater than that of all other industries combined. A farm is a big outdoor factory. The farmer takes the raw material of soil and sun and rain, of seed and tree and beast, and converts it into the more or less finished product that feeds and clothes the peoples of the world. In the words of the old song,

"The farmer is the man that feeds us all."

One of the great problems that face civilization today is the problem of feeding earth's toiling, hungry millions. The farmer alone can solve that problem. If farm production decreases, or even remains stationary, men, women and children all over the world must go hungry.



The farmer, then, is engaged in a business whose pedigree reaches back into the mists of antiquity, and yet its importance in this modern day is infinitely greater than that of any other business. In fact, farming may be said to be the foundation of all human occupations. I hope that a large proportion of you will make up your minds to stay on the farm, and, if you do so decide, you will have the assurance that you are devoting your energies and abilities to a career than which none is more honorable, none is more useful, none is more likely to bring you lasting satisfaction and happiness.

My last word to you is to urge you to care for your health, to cultivate your powers of observation, to form habits of industry and thrift, to build up your characters by ways of truthfulness and integrity and to make the most of your splendid opportunities at home and in school. If you will do this you will come into manhood and womanhood with a capacity for work and service that will make you honored and useful members of society.

Your sincere friend,

ALBERT E. SLEEPER,

Governor.



ON May 19 the Farm Bureau received fifty calves from Kansas City and put them out among the boys and girls of the county. The boys and girls selected their calves by lot. My calf, No. 27, was a very thin Hereford steer weighing 440 pounds, and cost \$16.60 per hundred pounds, or \$73.04, for which amount I gave my note to the County Farm Bureau. This price included an insurance, so if my calf died, I would get one-half the cost of him back.

I drove my calf home from Adrian and for the first two weeks let him pasture by the roadside, and handled him quietly to get him gentle. The next two weeks I fed him two pounds of ground oats and one pound of ground corn a day. After this I increased the corn to two pounds and reduced the oats to one pound a day. I fed this ration until about the first of July, then I began feeding heavier until his ration was slowly increased to

a mixture of eight pounds of ground corn, two pounds of ground oats and one-half pound of oil meal a day. I fed the above ration until the first of September, then I fed a ration of eight pounds of ground corn, two pounds of ground oats, one pound of oil meal, one pound of bran and four or five ears of sweet corn until September 15, when I took him to the county fair.

After the fair I brought him home and began feeding him a daily ration made up of a mixture of nine pounds of ground corn, three pounds of ground oats, one pound of oil meal, one and a half pints of feeding molasses and one and one-half pints of water thoroughly mixed. The above ration was divided into three equal parts and fed morning, noon and night.

I fed him in this way until November 1. Since then I have fed a ration of three pounds of ground corn, one pound of ground oats, one pound of oil meal, one pound of cottonseed meal and a teaspoon of salt thoroughly mixed with a pint of feeding molasses and a pint of water, which I fed twice a day, morning and night. At noon I fed him six pounds of whole barley and six ears of sweet corn.

During the whole feeding period the calf has had as roughage pasture for the first four weeks, then I put him in the stable and fed five pounds of alfalfa hay and suckers pulled off from sweet corn, until September 1. Since then he has not eaten as much roughage, only three pounds of alfalfa hay per day.

I gave my calf the best of care, kept a blanket on him during the fly season, and also sprayed his legs with kresol. I brushed and curried him several times a week and during hot weather washed him twice a month. He has made a good gain and the cost of the feed is \$65.66, which is quite high, but he ought to make a little profit if the selling price is not too low.

How I Fed My Calf

By Miles E. Beamer--(Age 11)

Expense Account.		
Date.	Weight.	Per Cwt.
June 1	640	\$2.60
June 1	100	2.50
July 1	50	3.00
July 1	15	3.00
July 1	600	1.30
July 1	740	.10
July 15	100	2.50
September 15	128	2.50
October 4	120	2.25
October 28	130	2.00
October 21	90	2.25
November 10	120	2.00
September 15	80	4.00
October 1	100	4.00
October 1	200	2.25
October 1	10 gal.	.25
October 1	5 bu.	.30
September 15	300	1.50
October 1	400	.10
Total		\$65.66

Corn	\$16.40
Oats	2.50
Oil meal	1.50
Bran	.45
Alfalfa hay	7.80
Grinding feed	.75
Oats	2.50
Corn	3.20
Corn	2.70
Corn	2.60
Oats	2.02
Corn	2.40
Oilmeal	3.20
Cottonseed meal	4.00
Barley	4.50
Feeding molasses	2.50
Cull sweet corn	1.50
Alfalfa hay	4.50
Feed grinding	.40

TRAPPING RACCOONS.

BY EARLE W. GAGE.

LIKE the mink, the raccoon hunts and fishes along the bank of small streams. Here we find many caves hidden among the banks. In these the raccoons find safe refuge from storms and trappers. It is not where the raccoon beds, but where it hunts that the traps should be set. When fishing for crayfish, snails, etc., the animal wades along the shallow edge of a stream. Often it finds itself under a high bank, where only a narrow fringe of shore permits it to pass around a pool too deep to wade. At such a place a No. 1½ trap, screened with a few wet leaves and fastened to a drag, is quite sure to make a catch.

Often the raccoon may be compelled to leave the edge of the water and pass over a bit of high land that juts out to the shore. It is not difficult for the experienced trapper to locate the point where it would be most apt to leave the water for this purpose, and there the set should be made. Often a bait set is made like the one used when the set is for a mink, but when this is done great care should be taken not to leave any foreign odors about. The cleanly habits of the raccoon are indicated by the fact that it washes everything it eats.

The raccoon's curiosity leads it into the trap. Along clear streams a trap placed just under the water with a bright object fastened to the pan often leads to a catch. A bit of bright tin will serve this purpose. Catching the flash of it, the raccoon will pause to investigate it and will in the end try to claw it from the trap.

In a different way trail setters, men who set their traps along the animal trails through the timber, often take advantage of the raccoon's curiosity to ensnare him. The traps are placed along the ledges near caves where it is known raccoons are bedding, and near it a tree is blazed or a limb is broken down. It is claimed a raccoon will spend much time examining such marks on trees, walking about and viewing them from every angle. If a trap is rightly placed he will be caught. When making a set of this sort it is well to take advantage of a narrow ledge, or some spot where the raccoon would be most apt to pass.

The raccoon, like the opossum, has no regular den, but beds where chance leads him. If it is determined that one is in a cave or burrow that has a narrow entrance, a good way to make a set is to drive stakes in front of the hole, leaving an opening too narrow for him to pass through, but far enough apart to allow his foot to be thrust between them. The trap should be placed just outside and lightly screened. Clinging at the stakes to effect an exit, the raccoon is sure to get a foot in the trap. This method is popular with trappers who use dogs in connection with their work.

In districts where caves are not numerous the raccoon beds in hollow trees, preferably well out in a hollow limb. While they hunt along streams they do not always bed close to water. A coon does his fishing in the early part of the night. After that time he is apt to be found most anywhere.

HAD SPEED LEFT.

At the Thanksgiving dinner, Willie was disposing of his soup with speed and noise.

"Willie!" said his mother in a reprimanding tone.

Willie knew immediately what his mother meant and, assuming an injurious air, he said:

"Aw, I wasn't goin' half as fast as I could."



Here's a Water and Light System for You

Work begins tomorrow morning on the water and light system I've arranged for your farm.

You know my plan's all right, Jim, because I and every other representative of the Milwaukee Air Power Pump Co. have to take a regular course on the water and electric light system.

You came to me thinking the Milwaukee system would cost too much. But you had an open mind, ready to be convinced by good reasons. I convinced you that this system, instead of being costly, would increase the value of your farm, besides making more money for you.

Here's how I've fixed your engine so

that it runs your water system, electric lighting plant, feed grinder, washing machine and cream separator.

Here's how you'll have hot and cold well and cistern water in your kitchen and bathroom; here's where you'll have good, fresh drinking water; here in your barn, there will be water for your cows. Here will be the flushing closet, and here you see where you'll have electric light in all your buildings.

It's because I'm carefully trained that I'm able to install this system that will make your farm worth more.

* * * *

If you don't know who is our representative in your county, write us; we'll tell you.

MILWAUKEE AIR POWER PUMP CO., 868 3rd St., Milwaukee, Wis.



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GET THESE HIGH PRICES

BE WISE—don't wait—bundle up every fur you have on hand and ship to Hill Bros.—the old reliable fur house where you are sure of correct grading, highest prices and a square deal every time. WE CHARGE NO COMMISSION. Read these EXTRA HIGH PRICES we are paying if you ship your furs AT ONCE. Use the shipping tag—cut it out—paste on heavy cardboard—and attach it to your shipment.

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	Extra Large	Large	Medium	Small	Unprime or Otherwise Inferior
MINK FANCY DARK	\$35.00 to \$40.00	\$29.00 to \$35.00	\$21.00 to \$28.00	\$16.00 to \$23.00	\$16.00 to \$25
DARK ORDINARY	\$30.00 to \$35.00	\$24.00 to \$30.00	\$18.00 to \$25.00	\$14.00 to \$21.00	\$14.00 to \$20
MUSKRAT	\$6.50 to \$7.50	\$5.00 to \$6.00	\$3.75 to \$4.50	\$3.00 to \$3.50	\$2.75 to \$3.00
SKUNK BLACK	\$13.00 to \$15.00	\$10.50 to \$12.50	\$9.00 to \$10.50	\$7.75 to \$9.00	\$6.50 to \$7.50
SHORT BROAD	\$10.50 to \$12.50	\$8.75 to \$10.50	\$7.50 to \$9.00	\$6.25 to \$7.50	\$5.00 to \$6.00
NARROW	\$8.50 to \$10.50	\$7.00 to \$8.50	\$6.00 to \$7.50	\$5.00 to \$6.00	\$4.00 to \$5.00
BROAD	\$4.50 to \$6.50	\$3.25 to \$4.50	\$2.75 to \$3.50	\$2.00 to \$2.50	\$1.50 to \$2.00
WHITE WEASEL	\$4.00 to \$5.00	\$2.50 to \$3.50	\$1.90 to \$2.50	\$1.25 to \$1.50	\$1.25 to \$1.50
RACCOON DARK OR HEAVY ORDINARY	\$18.00 to \$25.00	\$14.00 to \$20.00	\$11.00 to \$15.00	\$7.50 to \$10.00	\$6.00 to \$8.00
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If you live in any other section, ship us your furs and we will pay you highest market prices.

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FREE INFORMATION



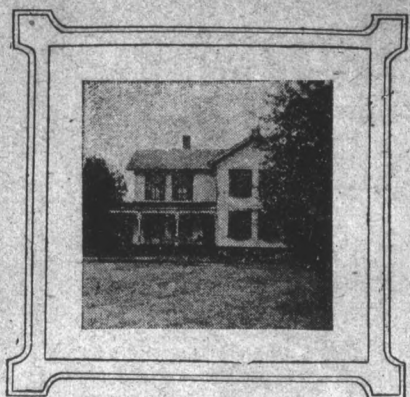
Largest returns on your small catch of furs. We are tanners and manufacturers of cattle and horse hides for coats, robes, rugs and mittens. Ladies Furs from coon, opossum, fox, muskrat, mink, coyote, badgers, skunk and rabbits. Taxidermist work on deer heads and rugs. Tell us the kind of fur you have and we will answer fully.

W.W. WEAVER, Custom Tanner, Reading, Mich.

AS we have gone out of the bean business we offer for sale one power Clipper bean cleaner and one Gibbs picker at a very low price. These machines are in good running order.

HOMER FARMERS ELEVATOR CO. Homer, Mich.

Mention The Michigan Farmer When Writing Advertisers



Woman's Interests

A Bill for Conserving Mothers



AMONG the many things with which the late sixty-sixth congress concerned itself was one which has been quite overlooked by the general public, though it had to do with a matter more vital to the future of the United States than any of the reservations. This was a bill for the public protection of maternity and infancy, introduced by Senator Sheppard of Texas, in October.

That this matter of domestic welfare affects the United States more deeply than any question of foreign policy is proven by figures which show that thirteen important countries have a more favorable maternal death rate than America, and six a more favorable rate of infant mortality. Every year 16,000 of our mothers die in childbirth, and nearly a quarter of a million babies die before their first birthday. One-half of the infant deaths occur before the sixth week, and these deaths are chiefly due to the condition of the mother, her lack of proper care during pregnancy and confinement. The rate of infant mortality is decreasing in America, but the deaths of mothers and of infants from causes relating to the mothers' condition are not decreasing, because mothers do not yet have the care and advice they need.

The bill, as introduced by Senator Sheppard, provides for a federal appropriation of \$2,000,000 for the first year, increasing until it reaches \$4,000,000 annually, to be appropriated among the states in the proportion which their population bears to the total population of the United States, provided the state legislature appropriates an equal sum.

The money is to be spent for instruction in the hygiene of maternity and infancy through public-health nurses, consultation centers, and other suitable methods, and the provision of medical and nursing care for mothers and infants at home or at a hospital where necessary, especially in remote districts. It will also supply lecturers on subjects relating to maternity and infancy, but none of the money is to be spent to buy, build, repair, rent or equip buildings.

What this will mean to the farm women living in remote districts will be understood fully only by themselves though reports submitted by the children's bureau from studies made in various sections of the United States reveal conditions unguessed by the more protected women of villages and cities. These studies, which began in 1913, were made with a view to finding out the conditions affecting the health of the prospective mother, the work she had to do, the general living conditions of the family and the care she received during pregnancy and confinement, and also to learn the care, especially the feeding of the infants, and the rate of infant mortality.

Of special interest to Michigan were two studies made in Wisconsin, one in the southwestern part of the state, and one in the northern, cut-over section. These two counties are almost identical with similar sections of Michigan, the conditions surrounding the mother are practically the same, and the conclusions reached by the government's agents regarding Wisconsin, might apply equally well to Michigan. The southern county is one of the most

prosperous agricultural sections of the United States; houses, barns and silos are ample, the soil good, crops large and the farms well stocked. Farming has been so long established that the well-to-do farmers are beginning to retire. There need be no special financial difficulty in giving adequate care to mothers and infants.

The county is well supplied with telephones and rural mail routes, only one family had to go as far as a mile to reach a phone. During the period studied there were one hundred and thirty-five confinements, and only two families had to go so far as ten miles for a doctor, while at least one-half of the families lived within five miles of a doctor.

The northern county faces a different problem. Large areas are still waiting to be brushed and stumped, the farm house consists of a two-room shack, where the family of from five to twelve must live. The father in these homes usually works out to earn the money to keep up payments, while the care of the farm is left to the mother. Roads are rough and in bad weather almost impassable. Only twenty of the two hundred and eighty country families visited had telephones; twenty were two miles or more from

saw the doctor after the baby was born.

As may be expected in a country where means of travel are slight, the women got to town but seldom. Few went more than twice a year in this northern county, and even in the south where roads are good and automobiles many, one woman was found who said she never got to town more than once a year. Under these conditions there is practically no pre-natal care of the mother.

Physicians generally recognize four requirements for adequate pre-natal care. These include a general physical examination, including an examination of the heart, lungs and abdomen.

Measurement of the pelvis in a first pregnancy to determine if any deformity may interfere with birth.

Continued supervision by the physician, at least through the last five months of pregnancy.

Monthly examination of the urine, at least during the last five months.

Patients who fall short of these requirements, but have at least one personal interview with the physician, including measurement of the pelvis and one urinalysis, are regarded as having fair care. If there is no personal visit, the mother simply sending to

Forest fires sweep over cut-over lands in a dry season and wipe out settlers' homes.



The old-fashioned well sweep may be picturesque but it involves too much heavy lifting.

a phone and forty were five miles or more. Rural mail routes, too, did not reach the families. Forty families had no delivery service, and some of these had to send as far as twelve miles for their mail.

Physicians were none too numerous. For the county there was an average of one thousand three hundred persons for every doctor. Five of the villages had no resident physician, and in large areas of the county families had to send ten to fifteen miles for a doctor. Of course, these were the sections where roads were poorest. Add to these facts the financial condition of these pioneers, and it is not hard to see that many mothers went without the services of a physician during confinement, and that in few cases did the doctor see the mother again after confinement.

In spite of all this there were three hundred and thirty-five confinements during the two-year period covered by the study. Of this number fifty-eight per cent were attended by physicians, thirty-six per cent employed a midwife, and the rest went without any professional attendant. Of those attended by the physician one-half never

deaths both of mothers and infants will be done away with.

As may be expected, household help was negligible. A few women had hired help during confinement, about two-fifths of the total. One-third of the mothers in the northern county took up their lighter housework before the baby was two weeks old and only about two-fifths waited a month before doing the washing and ironing. Forty-five women were up and at work in less than four days, and one mother was found by a neighbor propped up in bed the day after confinement with the moulding board in front of her trying to make biscuit. Such conditions may be necessary, but it is saying little for a commonwealth which can not provide at least two weeks rest for the mothers.

In the southern counties conditions were slightly better. Mothers recognized the importance of doing no heavy work, but the difficulty of getting domestic help kept many families from securing the aid they would have gladly paid for.

A picture of the conditions under which these mothers struggle is illuminating. A family with two small children came to a stony forty-acre tract, of which only five acres were cleared, and struggled to pay for the land with the father's wages as a day laborer. A baby was born in October of the first year; the mother was in good health and worked up to the last day, milking, caring for chickens, pigs, cow, and calf, picking stones, sawing and piling stove wood. In the summer she had made hay and earlier in the autumn had hoed and dug potatoes. After the baby came the father did the housework three days and the midwife did one washing; by the end of one week everything—including chores and sawing wood—fell upon the mother's shoulders again. Another baby was born in April of the second year. The mother had a fall a month before confinement which kept her in bed the whole month; but up to that time she had done everything as usual. Her husband did the housework for a week after the confinement on this occasion, and she stayed in bed a whole week, with daily visits from the midwife; afterwards she was more careful about her chores also—did nothing out of doors for two weeks. But after the fortnight she milked two cows, churned, made the garden, tended chickens, pigs and cattle, hauled manure, chopped, sawed, and piled wood, and after three weeks she began to plant the potato crop. When the baby was two months old the father went away to Milwaukee to work, leaving all the farm work to the mother. At that time the oldest of the four small children was not yet five.

As a result of these conditions the death rate of mothers from causes connected with child birth was high in the northern county. On the other hand, the infant mortality rate—the number of infants per one thousand who died under one year of age—was low as compared to the average in the United States. These mothers as a rule nursed their babies. In the south, the infant mortality rate was higher, but only one mother died in childbirth. That the health, character, and in fact, the whole future of the child is affected by conditions surrounding the

mother during pregnancy is recognized by those who have given any study to the subject. Only too few mothers know that their own physical and mental state during this period means a healthy, normal baby, with a fair chance of becoming a normal adult, or a delicate child born under a handicap which perhaps can never be overcome. The first step in securing well-born children is in education of the parents. When both mother and father realize that health is the greatest asset humanity can have, and that a start towards health for the infant can only come through proper care of the mother during pregnancy and confinement, they will demand this care.

Many parents, of course, are as yet financially unable to provide the care considered adequate. It is for these that the bill now pending is intended. What the citizen cannot do for himself, the federal government plans to do through public health nurses, lecturers and free dispensaries. If the bill passes both houses of congress, Michigan voters—men and women—should see to it that the legislature gets the state's share of the money.

Many counties in the United States now have hospitals where maternity cases are cared for free of charge. Those which have not should establish them as soon as possible, and through a public health nurse, educate their people to the necessity of conserving women and children. As another big step in the work the good roads movement should be pushed. Bad roads have as much to do with the failure of families to secure adequate medical treatment in these isolated districts as lack of money. Clay roads which are a wallow of mud in wet weather, or stretches of sand which are equally impassable in dry, have caused many a mother to be left to the care of a neighbor during the time when she most needs a physician.

HOW THE M. A. C. WILL HELP HOME-MAKERS.

HOW many of the women of Michigan know that the Michigan Agricultural College is their college? Of course, you know it is a state institution where you may send your sons and your daughters, and where you might even go yourself for short courses. But do you know that it is your college in an even wider sense? That it is ready to aid you every one of the working days of the year, no matter how far away from East Lansing you may live?

Did you ever stop to think that the home economics extension work is planned just for you? It is for you especially that specialists are maintained to give advice on any subject that may come up in home-making? If the jelly won't jelly or the butter won't come, or the chickens go on strike, a letter addressed to the extension department, Agricultural College, East Lansing, stating your trouble and asking for aid, will bring you the needed advice. Better still, if you want to know whether that old coat of yours can be dyed so it will look like new when you make it over for Mary, the clothing specialist can tell you if you write and ask her. She'll even do more and give you a few hints as to a good way to make the coat, and how best to lay the pattern on the goods.

If the family isn't up to par physically and the doctor says they aren't being fed right, there's a specialist who will help you plan a balanced ration. And if you just simply can't seem to plan your work so as to get through the day, there's another specialist to help you systematize your housework. She may advise you to re-arrange your whole kitchen and pantry, for often it is an illy planned workroom that takes up your time by adding to the number of steps you take daily.

Miss Coral Havens is the specialist

who will tell you all about food, bearing down hard on the use of plenty of milk to make sturdy boys and girls. Miss Helen Arms specializes in clothing, gives suggestions as to choosing becoming colors, selecting material, using patterns and the sewing machine and its attachments. The home management specialist is Miss Edna V. Smith, who not only has the advantage of college training but practical experience in her own farm home in running the kitchen. These trained women will gladly answer any questions puzzled home-makers may want to ask. Then the college helps farm women in other ways. Your club may want to do some studying in home economics.

If you want help in arranging the program you can get it by writing the college. You may want lectures and demonstrations. If you do the specialists will come to you and give you what you want. If it is food there are lectures arranged for two days on "How Food Affects Our Health," "The Stuff that Sturdy Children Are Made of," "Liquid Meat," including a demonstration on the use of milk and cheese as meat substitutes, and "Can we Live Better and Spend Less," with a demonstration on planning balanced meals from Michigan farm products.

The clothing lectures include in addition to the subjects already mentioned, "Care and Renovation of Clothing," "Children's Clothing," "Remodeling—Cleaning and Dyeing," and "The Clothing Budget."

In home management, "System in Housework," "The Model Kitchen," "Labor-saving Devices," and "Keeping and Making a Study of the Household Accounts," are considered.

The college no longer has a nurse to take charge of health questions.

WOMEN BECOME FARM BUREAU ENTHUSIASTS.

THE recent Farm Bureau membership campaign movement has enlisted the hearty cooperation of the farm women folks. Here is a letter addressed to a solicitor who in his regular work had called upon the author of the letter during her absence from home:

"I am sorry that I did not know the nature of your errand here today so that I might have joined the Bureau, too.

"In no other line of business do women play so important part as in farming. Banks, stores, mills, mines, manufacturing establishments, or anything you might name can be run without the help of women. But our farms absolutely could not be maintained without our help. Inasmuch as this is the most obvious of facts it is a shame and an insult to farm women not to ask them to join. For the present many will not be able to, as \$10.00 for the husband will be all the family can spare. But some will be able without sacrificing and others with real sacrifice to join. It isn't exactly easy in my case, but my heart is in this movement. Its wonderful success is bound to come in time—how soon none of us know.

"Please make it possible in some way for me to join during the present campaign. If it can be done without troubling you to call again, you need not leave a button for me as Mr. Birmingham gave me one while he was at Gladwin a short time ago. Mr. A. E. Atwater, our county agent, can give you any information you may need as to where we live. I am addressing this to him as I thought he would see that it reaches you tonight."

THRIFT HINTS.

Save some of your old license plates from your auto and nail them by the doors steps. They make excellent foot scrapers.—Mrs. E. V. S.

Every woman knows how easily white kid gloves become soiled. When dressed for some occasion where they are to be worn, slip a pair of old white silk gloves over the kid ones if going by train or auto, and remove them when entering the house or hall where the function is to be held.—L. M. T.



— and welcome for three splendid reasons, especially in these days of soaring costs—because Calumet gives three big positive helps in reduction of living expense.

You save when you buy it—moderate in cost. Leaves you more money with which to buy other things. You save when you use it—has more than the ordinary leavening strength—therefore you use less. You save materials it is used with. Never fails.



CALUMET
Baking Powder

"BEST BY TEST"



Makes Most Palatable and Sweetest of Foods

Produced in largest, finest, most sanitary Baking Powder Factory in the World. Contains only such ingredients as have been officially approved by United States Food Authorities. The first choice of millions of housewives for a third of a century. Order from your dealer.

"SALADA"

ORANGE All Pure Tea—
PEKOE Free from Dust

Beware of Substitutes

Buy Only by the Name "Salada"

Sealed Air-tight Packets Only



CONSUMERS FISH CO.
GREEN BAY, WIS.

Send For Price List
No Profit Here

Frozen Bayfish dressed 5c; Pickered 8c; Headless, dressed 11c; Pike 15c, dressed 16c; Steak Cod 9c, Market Cod 7c, Sable Cod 12c; Whiting (Sea Pike) 6c; Whitefish 15c; Salmon 15c; Halibut 17c; Herring, loose winter caught 6c, dressed 7c. Smoked Fish in 10 lb. Baskets: Bluefish 10c; Tullibee 17c; Salmon and Whitefish Chunks 20c. Holland Herring, 10 lb. Keg \$1.20. Send remittance with order. Special prices furnished on straight box lots.

FISH FISH

Fresh Frozen Herring 5c lb. Pickered 8c. Dressed Bluefish 6c, Salmon 16c. Yellow Pike 16c. 20 lb. basket Smoked Bluefish at \$2.00. Write for our complete price list Frozen, Salted, Spiced, Smoked and Canned Lake & Ocean Fish.

JOHNSON FISH CO.

Dept. M,

Green Bay, Wis.

Big Profits
Growing Strawberries
\$500 to \$700 per A.
made by planting
Keith's New Land Plants
Grown on Fresh New Soil
they are the best Mother Earth
can produce. Strong, Healthy, Full
of Life. One of our varieties brought
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able plants for you. Guaranteed to
satisfy or your money back. "Keith's
Way to Successful Berry Culture" tell
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For 71 years the leading authority
Now on Vegetable, Flower and Fruit
Seeds, Plants and Bulbs. Better
Ready than ever. Send for free copy today.
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VERBEARING STRAWBERRY
Our free Catalog describes and illustrates
a full line of choice small fruit plants.
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STRAWBERRY PLANTS
24 varieties, \$1.00 per 100. History and illustrated
book gives all details about most vigorous true to na-
ture productive stock now grown. Book free,
Mayer's Plant Nursery, Merrill, Michigan

Strawberry plants, 100 early to late, \$1.00, posts
paid. Catalog of plants and trees
free. **L. G. TINGLE, Box 71, PITTSVILLE, MD.**

How to get Greater Crops with Less Labor

Let Planet Jr. Farm and Garden Implements help you do the work. You can triple your acreage, or cultivate your present acreage in one third the time required with inferior tools. Because of the scientific design and sturdy construction of Planet Jrs. they do closer and more thorough cultivation which shows in the greater crop yield.

No. 25 Planet Jr. Combined Hill and Drill Seeder, Double and Single Wheel-Hoe, Cultivator and Plow sows all

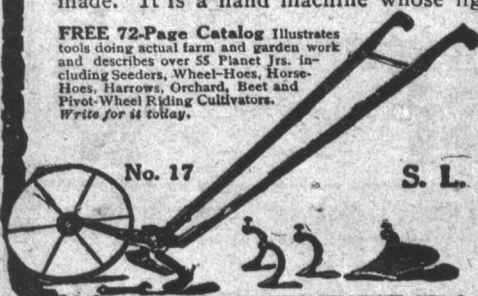


Planet Jr.

garden seeds from smallest up to peas and beans, in hills or in drills, rolls down and marks next row at one passage and enables you to cultivate up to two acres a day all through the season. A double and single wheel-hoe in one. Straddles crops till 20 inches high then works between them. A splendid combination for the family garden, onion grower or larger gardener.

No. 17 Planet Jr. is the highest type of single wheel-hoe made. It is a hand machine whose light, durable construction enables a man, woman or boy to cultivate the garden in the easiest, quickest and best manner.

FREE 72-Page Catalog illustrates tools doing actual farm and garden work and describes over 55 Planet Jrs. including Seeders, Wheel-Hoes, Horse-Hoes, Harrows, Orchard, Beet and Pivot-Wheel Riding Cultivators. Write for it today.



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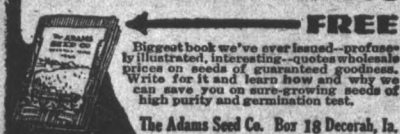
5 GREAT NOVELTIES
20 cts. The glorious pink, striped, scarlet, plumed, etc. mixed. Japan iris, new hybrids, all colors. Magnificent. Giant Centaurea, superb for garden or vases. And our Big Catalog, all for 20 cts.

Big Catalog, free. All flower and vegetable seeds, bulbs, plants and new berries. We grow the finest Gladioli, Dahlias, Cannas, Irises, Peonies, Perennials, Shrubs, Vines, Ferns, Peas, Asters, Pansies, etc. All special prize strains, and many sterling novelties. **JOHN LEWIS CHILDS, Inc.** Floral Park, N.Y.

Save on Seed\$

Get matchless bargains and sure yields by planting Adams' QUALITY SEEDS, cleaned, graded and tested by special machinery in our model seed plant—sold subject to approval and state college tests—World's Standard Grass Seed, Seed Grains, Seed Corn, Vegetable Seed, Flower Seed, etc.—the varieties that will produce BOUNTY in your latitude. Samples and expert advice on crop growing FREE.

MONEY-SAVING CATALOG



FREE
Biggest book we've ever issued—profusely illustrated, interesting—quotes wholesale prices on seeds of guaranteed goodness. Write for it and learn how and why we can save you on sure-growing seeds of high purity and germination test.

The Adams Seed Co. Box 18 Decorah, Ia.

CLOVER—free from Buckthorn, Timothy and Alike mixed. Soy Beans, all Field Seeds. Write for free samples and the freight-paid prices on our absolute Money Back guarantee. **Farmers Commercial Seed Company** 140 WEST VAN BUREN STREET, CHICAGO, ILL. Dept. "F"

Wanted, Several old "P. D. Beckwith" cast iron grain drills. Need not be in running order. Write for prices. **A. M. TODD COMPANY,** Menasha, Mich.



"The Old Stove Master"

I'll SAVE You 25% to 60% on a Pipeless Furnace!

Because I build them myself. You can't beat the price of the man who makes the goods, Friend.

Write and Get My Book, FREE quoting my direct-to-you-from-factory price. Also get my offer on Kalamazoo Stoves, Ranges, Kitchen Cabinets and Tables, Phonographs, Fireless Cookers, Cream Separators, Sewing Machines, Washing Machines, Indoor Closets, Paints and Roofing. I'll quote easy terms, give you an unconditional guarantee and pay the freight.

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"The Old Stove Master"
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"A Kalamazoo Direct to You"

We'll Rebuild Your Lamp Into a "Quick-Lite"

If you have an old style torch-generating gasoline table lamp with good font, send it to us by Parcel Post and have it fixed up. We will make it into a "Quick-Lite" match-lighting lamp that will give you years of satisfactory service. We will also clean and test your lamp, returning it in perfect working order. The Quick-Lite burner costs \$3.00 the cleaning and testing is FREE. The Quick-Lite burner

Lights With a Match No alcohol torch. Does away with expense and bother of alcohol. No delay hunting 'round for torch. You merely hold a lighted match under the patent coil and in an instant you have a wonderful, brilliant, strong, white light, mellow and restful to the eyes.

Send your lamp and \$3.00 at once to nearest house, and have it made over better than it was when new.
The Coleman Lamp Co.
Wichita St. Paul Toledo Dallas Los Angeles Chicago

Farmers' Interests

(Continued from page 115). and is undoubtedly an improvement over its predecessors. There are weighty questions involved in government regulation of the great meat packing industry; problems which must be settled with due consideration for the best interests of all parties concerned if a successful solution is obtained. Out of the accumulations of investigations, discussions, committee hearings and the combined wisdom of the farmers' representatives and the committees on agriculture in the senate and house, no doubt a law will be enacted which will be reasonable to stockmen, packers and the public.

Senator A. B. Cummins, chairman of the Senate Interstate Commerce Committee, recently granted an interview to the representatives of the National Grange, at which grange leaders from several states presented the views of the farmers, asking for the prompt return of the railroads to their owners, the enactment of legislation providing the terms and conditions of this return, and urging the retention of the anti-strike clauses of the Cummins bill as adopted by the senate.

National Master Lowell spoke of the recent referendum of thirty-three state masters, in which the replies covering a majority of the membership, have unanimously been in favor of the anti-strike clause in the Cummins bill. "The Cummins bill," said Mr. Lowell, "protects every individual right to choose occupations and to leave a job when ever, wherever and for whatever reason an individual wishes to do so. That is an American citizen's right. But the Cummins bill protects the public's right to say to any organization of individuals created or permitted under the laws, that such organizations shall not deliberately create conditions so

one class has a stranglehold on the rest of the public, and then proceeds to use that stranglehold under the guise of individual liberty."

Pure Fabric Bill.

Congressman French, of Idaho, has introduced a bill in the house requiring all dealers and manufacturers of wool or mixed wool products to have their articles plainly labeled or marked, showing just how much wool they contain and the extent to which they are adulterated. The French bill also provides that all manufacturers of these goods be registered, so that in case there is a dispute over the wool content the matter can be traced to the original maker.

This bill is in line with the movement now strongly supported by the New York State Federation of County Sheep Growers' Associations in favor of a federal honest fabric law. President Fred I. Porter, of the New York Federation, says that an honest fabric law, honestly enforced, would doubtless increase the demand for virgin wool and perhaps temporarily increase the price. It seems reasonable to suppose, if it doubles the present price of wool, it would be justified from the standpoint of the consumer, in increased wear, more satisfactory service and better appearance of the clothing they buy. The present high price of clothing is not caused by the price of virgin wool. At present market value, if cloth were made from virgin wool and the raw material were donated to the manufacturer, it would only reduce the cost of a man's suit five dollars. If the passage of an honest fabric law should double the present price to the consumer of virgin wool (but it will not) it should only increase by five dollars the cost of a man's suit made from all not deliberately create conditions so virgin wool."

Healthy Seed Best



THE potato has been the main money crop of the Grand Traverse region since the lumbering days, and will probably continue to be for some time. The yield this year was not up to the average owing to the prevalence of disease which is exacting a greater toll each succeeding year. Fusarium wilt, black-leg and black scurf are on the increase, but strenuous measures are being used to combat these. At the county agents' conference held at Cadillac a few weeks ago, a plan was presented and has been accepted by the Michigan Potato Growers' Exchange along the line of potato seed improvement, a better quality table stock and lower cost of production. The plan provides for an association seed plot of sufficient area to provide enough disease-free seed so that each member can secure enough to plant a plot for his next year's planting. The seed plot will be under the supervision of the potato specialist, county agent and the board of directors of both the exchange and locals. Those having the plans in

charge are confident that properly carried out they will do much to decrease the cost of production.

Comparatively few disease-free fields are found in Michigan. A few men, however, are taking pains in the selection and treatment of seed and are reaping great rewards. The accompanying illustration of the farm of C. A. Wood, Paradise township farmer, of the Grand Traverse county, is typical of the results obtained from careful seed selection and good cultural methods. Just 2,850 bushels of late Petoskeys were raised from this field of twelve acres. These will all be saved for seed purposes. Other farmers in that vicinity on the same type of soil and following the same cultural methods but planting diseased seed, harvested a much smaller crop; the yield in some cases not exceeding fifty to seventy-five bushels per acre. Mr. Wood is doing a great work in promoting better quality seed production and better marketing facilities.

R. A. WILEY,



Winter Rations for the Dairy Cows

THE most important item of winter dairying is to furnish the cows with an ample and economic ration. In order to obtain best results it is necessary to supply cows giving milk with their full requirements, especially those that are fresh and are giving a good flow of milk. To give best results a succulent feed should be supplied. Without doubt the cheapest and easiest obtained is silage made either from corn, kaffir or cane. Beets are a substitute for silage, and can always be fed with good results. They are a little more expensive, however, than corn silage, but where large records are desired they make an excellent feed.

In cold weather there is naturally a demand for body heat which can be supplied best through the use of corn or barley. In the corn belt, corn, as a rule, is the cheapest and best to use. For this reason most successful dairymen have aimed to feed each animal from one to four pounds of ground corn a day. I say ground corn, because it is best fed in this way. It may be ground with cob or without; but by grinding, the animal can then assimilate and digest the feed, which is the first essential. I am inclined to believe for best results it is wise to balance both roughage and grain. By balancing roughage I mean to give the roughage so that it can be consumed in any quantities and still be a balanced ration. This can be done by feeding such forage as alfalfa hay and corn silage or clover hay and corn fodder.

An animal, as a rule, will balance its own ration if it has the opportunity to do so. By feeding silage in the barn in rations from twenty-five to fifty pounds a day, and having access to alfalfa hay in the rack, animals will balance their own ration in roughage. The grain ration may be balanced by mixing; e. g., if corn and oats are at hand, equal parts by weight, or if oats are not obtainable, bran can be used in its place. For heavy milkers it is often advisable to feed oil meal or cottonseed meal. This should be mixed with the grain and can be given one to five, or one to six; that is, one pound to five pounds of grain, or six pounds of grain. There is an old and pretty safe rule of giving one pound of grain for every four pounds of milk; but the animal must be considered. A cow which is becoming fat and shrinking in milk will not pay for her feed in this ratio.

There has never been a season when dairying has been so profitable as it is this year, and there has never been a time when it was so important to know your cows, to use good cows and to feed them well on a cheap and good ration. I know there is much complaint about high cost of feeds; but much of this is due to the lack of supplying good home-grown feeds which, after all, are the best and cheapest. There is no excuse for not having an abundant supply of corn silage. It is cheapest and best of all our roughage.

A man who is buying feed at present prices and supplying these as he needs them is without doubt confronted with

(Continued on page 145).

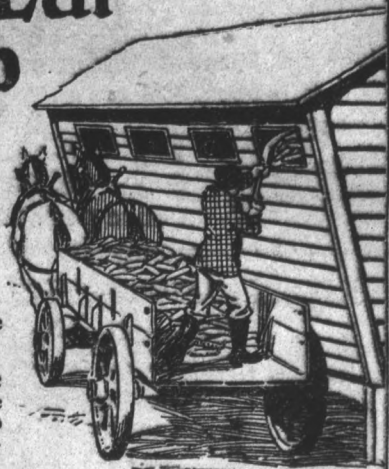
Put Your Corn Stalks in Your Silo and Your Ear Corn in Your Crib

Get two FULL VALUE FEEDS out of your corn crop this year instead of only one. Why let one-half or even one-fourth of it GO TO WASTE.

There is MORE FOOD NUTRIENTS in the stalks, leaves and husks when put through a silo, than in the ears.

That's why we urge you to put your ear corn in the crib and your fodder in a silo.

In this way you will have silage with MORE FOOD NUTRIENTS than the ears contain and ear corn in your crib to feed as you prefer—TWO FEEDS INSTEAD OF ONLY ONE. The



JENNY SILO-FILLER-HUSKER

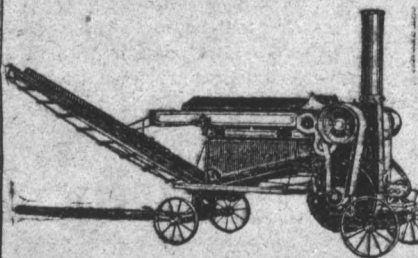
Fills the Silo and Husks Corn at the Same Time!

The Jenny Silo-Filler-Husker keeps from 600 to 1000 bushels of corn out of the silo at each filling, and permits you to fill your silo two or three times a season. Figure for yourself how much you save with the machine—and how much you lose without it.

The Illinois Experiment Station found that Stover Silage costing only \$1.50 per ton, wintered their breeding cattle through as good as corn silage costing \$10.90 per ton. The cost to feed the cattle on Stover Silage was 7.8c per head per day. Those fed on Corn Silage cost 24.8c per day. A saving in favor of Stover Silage of $\frac{2}{3}$ the cost of corn silage. The saving Stover silage affords is so big it is hard to believe, but it is ABSOLUTELY TRUE—backed by many actual tests.

The chief reason is because the stalks, leaves and husks, when put through a silo, thus releasing the sugars and starches they possess, contain a trifle more food nutrients than the ears.

Get Posted—Get these TWO FREE BOOKS



Find out NOW about this method of getting TWO DOLLARS worth of feed where you are now getting only ONE. Write for these two books—one on Stover Silage—the other on the JENNY SILO-FILLER-HUSKER which not only pays its cost over and over, but does away with ALL hand husking. No more cold fingers shucking corn.

Here is a machine within the reach of every farmer having one silo or more that will save and make for him hundreds, yes, possibly thousands of dollars this year. Fill out the coupon. Get these books and see for yourself.



Hall Mfg. Co., Dept. O, Cedar Rapids, Ia.

Gentlemen: Please send me your two new books and oblige.

Name.....

Town..... State.....

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THE HALL MFG. CO., Dept. Cedar Rapids, Ia.



Better Seed Beds—Bigger Yields

Make the most of high-priced seed and fertilizers. Put them into perfect seed beds made as smooth as a flower bed with an

"Acme"

Pulverizing Harrow.

"The Coulters Do the Work." They slice their way through sod and trash. They fill air spaces and compact the furrow slices. They pulverize and level the surface soil.

The "Acme" Harrow is light in draft—easy on the team, and you ride. Sizes: 1-horse to 4-horse; the larger sizes are just right for the tractor.

Ask your dealer to show you the "Acme." Write us today for prices and new catalog. Be sure also to ask about our new "Acme" Disc Harrow.

DUANE H. NASH Inc.

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Millington N. J.

"Acme" Standard No. 23—Two-horse Harrow

This model has 12 coulters and cuts $6\frac{1}{2}$ ft. No. 26 has 16 coulters and cuts $8\frac{1}{2}$ ft.

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On trial. New, well made, easy running, easily cleaned, perfect skimming separator. Skims warm or cold milk. Different from picture which shows larger capacity machines. Our guarantee protects you. Get our plan of easy

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and handsome free catalog. Whether dairy is large or small, write today. Western orders from Western points.

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CLOVER-SEED

Buy your seed direct at wholesale prices. All kinds. Let us save you money on your Clover Seed. Write for wholesale prices and samples today. Get our Big 1920 Seed Catalog FREE.

DAVE PECK SEED CO., 202 Pa. Ave., Evansville, Ind.

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All Kinds of Trees and Plants Grow. Improve value, appearance, pleasure and profit of your farm, garden or orchard. Reduce high cost of living. Plant good stock. Fruit needed everywhere. Free Catalogue. MITCHELL NURSERY, Beverly, Ohio

Loes and Lumber Wanted. Popular and other kinds in car lots only.

HELENA WOODWORKING CO., HELENA, OHIO

FREE Feed Mill Booklet

Write for it Today—tells why there is a saving of 25% in feed when ground with



Stover Samson Windmills, Good Engines, etc.

SCOTT'S FIELD SEEDS

Seed to be worth planting at all must not only grow, but must grow a profitable crop. For years we have been supplying seed practically free from weed seeds and dead grains, the only kind that will show a profit. Samples and our Field Seed Book, which tells exactly "How to Know Good Seed," are free. To save losses from weeds, you need this information. Write today.

O. M. Scott & Sons Co., 74 Main St., Marysville, Ohio.

Get Clean Milk

In winter, when the cows are stalled and it is hard to keep the udders clean, clip the flanks and udders every few weeks—a few minutes will do it if you use a Stewart No. 1 Machine—then the parts can be wiped in a jiffy and the milk will be clean and free from dirt. Clips horses also. Complete only \$12.50 at your dealer's, or send \$2 direct and pay balance when it comes.

CHICAGO FLEXIBLE SHAFT COMPANY Dept. A127, 12th St. and Central Ave., Chicago

MARRIED MAN WANTED

Wish to hire married man to work on this farm with small or no children. Must be competent and reliable, without bad habits; good opportunity for a man who is willing and able to give honest efficient service. Address

HERBERT W. MUMFORD Brookwater Farm, Ann Arbor, Mich.

Wanted to buy a Maple Sugar Sap Pan and Pails give lowest price, and condition of outfit. F. M. Greenough, Armada, Mich.

"Cash in" now when eggs are high

HAVE eggs to sell—plenty of them—all through the season. There's a nice profit in table eggs, so making money is only a matter of healthy hens—assured by the use of

Pratts Poultry Regulator

Tones up the digestive system and keeps layers and breeders in a normal, natural condition so that they keep on laying. Used by thousands of successful poultrymen and farmers all over the world. Always sold with this guarantee:

"Your Money Back if YOU are Not Satisfied"

Sold by 60,000 dealers
There's one near you

Write for Pratts NEW Poultry
Book—Free



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Get big hatches with this new HOME HATCHER INCUBATOR

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POULTRY

DAY OLD CHICKS

New Spring Catalog

The Day Old Chick business is on. We advise you to write for Catalog now, and then order as early as you can.

The most complete descriptive Catalog we have yet published; its instruction will help you.

**Thirteen Heavy Breeds,
Three Especial Egg Breeds.**

You will be particularly interested in the extra heavy laying breeds: White Leghorns inspected and certified as heavy producers by the Poultry Extension Specialist of the Agricultural College.

Cockerels and Pullets: Several breeds; see Catalog. We solicit your interest in the Homestead Farms plan of Pure Breed Poultry raising.

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Baby Chicks Bred-to-Lay and Exhibition S. C. W. Leghorns, stock that produced the winners in the state demonstration farm work. Winners at Detroit, Toledo and Oil City, Pa. Shows \$10.50 per 50, \$20 per 100, \$35 per 500. Safe delivery postage paid. **Sunnybrook Poultry Farm, Hillsdale, Mich.**

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Barred Rock cockerels, 5 firsts, 4 seconds at recent Jackson Fair, fine birds, \$4 to \$6 each. **SAM STADEL, Chelsea, Mich.**

Poultry Ads. Continued on Page 151

Why Not Raise Turkeys?

By C. H. Burgess

THE poultry stage is cleared. Six months ago you held "the king of fowls," the turkey, in the low of your hand—today he tips the scales at from twenty to twenty-five pounds. His market price, per pound, is from forty to fifty cents and the demand is strong.

During the first few weeks of his young life you carefully provided him with food and shelter. Then his mother took him out into your fields and taught him to find the greater part of his own living. Day after day he ranged your farm, picking grass and weed seeds and diligently searching for bugs and insects, asking only for a light breakfast and substantial supper to remind him to come home at night. Then when the frosts and snow of late autumn deprived him of his forage grounds you gave him the grain he needed to round out the great frame he had built out of your grasshoppers, grass and weed seeds and the wasted grain left in the fields after harvest.

You then had a product ready for market and no other fowl or live stock raised upon your farm gave you as great a profit for the same amount of care and feed. Perhaps at times you have had to guard a crop of wheat or corn when in the process of harvesting, as the open display of grain may tempt Mr. Turkey to help himself, but the real damage that they do is often overestimated. If they have had a feed of grain at home, it is bugs and grass that they want and are searching for on range. It is commonly admitted by many observing farmers that, by ridding the fields of weed seeds and insects that are harmful to growing crops, they do more good than harm.

The turkey is also misrepresented in regard to his disposition. He is usually considered wild and undomestic like his forefathers and we do find this type of turkey on the farms where they have not been properly managed. As a matter of fact, you may take any breed of turkeys, select the individuals that seem of mild and even temperament, breed your flock from them, deal with them gently and quietly and you will find them more tame than chickens. I have in mind one successful breeder who makes an especial effort to keep the turkey mothers tame, considering it a great advantage in rearing the young.

The turkey is a creature of habit. When the young flock is first started out on range, by persistent effort, they can be trained to range in certain places and to come home to roost at night. We are finding that it is well worth while to give more attention to their management and that letting them care for themselves is not a paying proposition. Careless methods are, in a great measure, responsible for the decline in turkey raising. Contrary to the general opinion, there is not a more hardy fowl to be found than the turkey, when we have learned how to avoid disease

by proper methods of breeding, feeding and care. I know of one Michigan breeder who raised a flock of from one hundred to one hundred and fifty every year on a farm where turkeys have been raised for more than twenty-five consecutive years. I have been told of a lady who raises from twenty to thirty turkeys each year on not more than an acre of ground. This, however, requires more time and clever management. The surroundings must be kept clean and sanitary and food must be given in a way to keep them active and busy. Home must be made especially attractive.

We find that purebred stock in fowls and live stock gives best results and this is especially true of the turkey. It is the purebred bird that is strong enough to resist disease and that weighs the greatest number of pounds at market time. It has taken no more feed or labor to raise our young tom of twenty-five pounds than to raise one of fifteen or sixteen pounds.

Considering the profit and the service they render by the wholesale destruction of insects that menace the farm crops, it would seem that every farm should have its flock of purebred turkeys. I read an article in a newspaper recently, stating that the people in one of our northern counties are preparing now to fight the grasshoppers again next year. Certain sections of northern Michigan have been so besieged with grasshoppers that entire grain crops and other vegetation have been completely destroyed. They have fought them with poisons scattered upon the ground, thus endangering wild bird life and taking a considerable risk of poisoning live stock. Why not adopt the more safe and profitable method of fighting them with turkeys. Large flocks of turkeys raised on these farms would not only save the crops and rid the land of the pests, but would convert them into another crop of high priced turkey flesh.

There are in the state thousands of acres of uncultivated land that would make ideal range for turkeys and there is no reason why Michigan should not become one of the greatest turkey producing states. No one need be afraid of over-production as the demand will exceed the supply for many years to come. Our markets are filled each year with turkeys from the west and from Texas. Why not have them filled with Michigan turkeys and Michigan farmers reap the returns from this profitable industry. The poultry department of the college is willing to cooperate with the farmers of the state in securing the very best blood lines from the best breeders of turkeys in the state.

Every farmer-poultryman should be an ardent supporter of the great Farm Bureau organization and that he might grasp the full idea of the organization we commend to him the article by Dean Davenport on another page.



A Splendid Flock of Michigan Purebred Turkeys.

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Find out what an incubator is made of before you buy. We will gladly send you samples of materials we use. Get our Catalog and samples before buying. We give 30 Days' Trial—10-Year Guarantee. These two well-made, nationally known machines—

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Wisconsin are made of genuine California Redwood. Incubators have double walls, air space between, double glass doors, copper tanks, self-regulating. Shipped complete with thermometers, egg tester, lamps, etc., ready to run. Send today for our new 1920 catalog, free and postpaid. **Large Size 100-EGG INCUBATOR AND BROODER, BOTH \$20.00.** **WISCONSIN INCUBATOR CO. Box 82, Racine, Wis.** **MONEY BACK IF NOT SATISFIED**

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DES MOINES INCUBATOR CO. 368 Second St., Des Moines, Ia. 27 Years of Big Successes

WINTER RATIONS FOR THE DAIRY COW.

(Continued from page 143).

a serious problem; but few cow-keepers are required to follow this practice. If they have no land they can rent a few acres of corn and fill a silo and do this with a profit. Where alfalfa or clover hay can be grown, it should be used liberally by the cow-keeper.

Our city cousins have been doing a good deal of complaining about high prices for milk and butter, but they have been invited to come out and milk the cows if the prices did not suit. This, in a way, has answered their complaint; but there is another side to this controversy. Our city cousins have a right to complain if we are using poor unprofitable cows in the dairy, and if we do not avail ourselves of the economic advantages of the silo and other well established and well known economic methods. A man who is trying to milk beef cattle and buying farm-grown feeds from week to week at the prevailing high retail price, is more to be criticised than the manufacturer who is selling his commodity at lofty prices; in other simple words, present times demand that we use up-to-date progressive, economic methods in our production.

As to the feeding of dairy cows, the only profitable kind is liberal feeding. The man who would save on the feed bill cheats himself; and this is why every cow requires every day a maintenance ration which on the average is about two-thirds of what she will eat. If we deprive her of this one-third we supply her with only a living food, which means, nothing for milk. A good cow thus treated will continue to milk and grow thin and eventually go dry, for life preservation is the first order. Then the part where we obtain our profit is this extra one-third. He who would economize by scrimping in feeding will lose not only the two-thirds ration, but also his time and on his investment, beside damaging his milking herd. Give great care to supplying all requirements to the cow, especially during the winter months.

A. L. H.

MR. DICKINSON HEADS INTERNATIONAL ASSOCIATION OF FAIRS.

MICHIGAN is again honored—G. W. Dickinson, secretary-manager of the Michigan State Fair, has been chosen president of the International Association of Fairs and Expositions, the national body which includes in its membership the executives of all the leading fairs in America. Mr. Dickinson declares that sporting events will play a greater part in future fairs than they have in the past.

At a recent meeting of the national body in Chicago, at which time the Michigan fair leader was chosen president, fair secretaries from all over the country asserted that the interest in sports aroused among the soldiers during the war makes it imperative that sporting events be given greater consideration in their coming expositions.

"While the fairs were originally for agricultural encouragement, the exposition of today has outgrown that idea," Mr. Dickinson explained. "Our fairs have become gigantic institutions, not only dealing with agricultural pursuits, but the industrial, commercial and entertainment phases of human activity. While sports have been well represented in fair programs, in the future they will cover a wider scope."

A CORRECTION.

In a recent issue an item on the wonderful performance of the Jersey cow, Lulu Alpha of Ashburn, was published, in which it was stated that the animal was owned by Waterman & Waterman, of Ann Arbor. This was an error, the animal belonging to Oregon parties.



This Healthy Brown Swiss

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Cultivate health, and the milk pail will show instant improvement.



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KOW-KURE is a cow medicine designed to help solve the health problems of cow owners. By directly affecting the organs where disease lurks, this medicine is successful in treating or preventing Abortion, Retained Afterbirth, Barrenness, Bunches, Scouring and Milk Fever. Try a treatment on your poorest milkers and note results. Feed dealers and druggists sell KOW-KURE; 60c and \$1.20 packages.

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"THE HOME COW DOCTOR"

—full of valuable dairy hints and full information on treating all cow diseases.

Dairy Association Company

Lyndonville, Vermont



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Think of it—over a quarter of a million—Satisfied Users. Save-The-Horse has demonstrated its unsurpassed power by consistently curing thousands of so-called incurable, complicated and stubborn cases.

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Save-The-Horse Remedy is sold under a Signed GUARANTEE-BOND, to refund money if it fails to permanently cure SPRAIN, Ringbone, Thoroph, or Shoulder, Knee, Ankle, Hoof, or Tendon Disease; Horse Worms. In liquid form—more penetrating than paste or blister. It acts on diseased bone, calcareous deposit and tissue.

Our FREE Book—96 pages. Illustrated—tells how to diagnose easily and treat 58 kinds of lameness. Every horse owner should write for this BOOK, expert Veterinary advice, and copy of Signed Guarantee—ALL FREE.

TROY CHEMICAL CO., 320 State Street, Binghamton, N.Y. Druggists Everywhere sell Save-The-Horse with GUARANTEE or we send by Parcel Post or Express paid

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(War tax paid). One application usually enough. Intended only for established cases of Bone Spavin, Ringbone and Sidebone. Money back if it fails. Write for FLEMING'S VET-POCKET VETERINARY ADVISOR. It is FREE.

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Cedar Fence Posts for spring delivery. Information address Box R-124, care of Michigan Farmer, Detroit, Mich.

FOR SALE—Belgian Hares; price from \$3.00 to \$9.00 each; raised from stock of the National Food and Fur Assn., Milwaukee, Wis. Raise Hares for your own table use, and to sell. V. M. Echlin, Amador, Mich.

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

FOR SALE Scotch Collie puppies. Fine ones and nicely marked. THOMAS STANFIELD, Box 127, Hillsdale, Mich.

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

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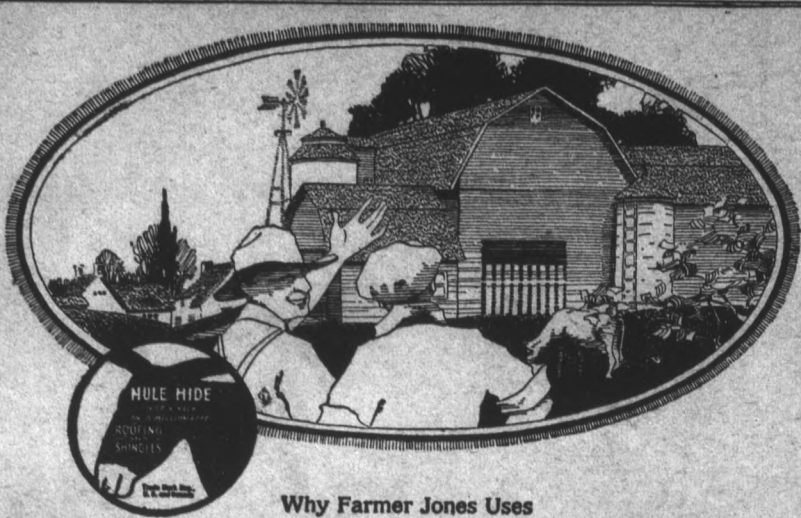
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"LIVE stock are much the same as humans. They require warmth. You can't keep cattle, hogs and horses warm under a poor roof. Besides, stock will consume more feed when not properly housed, and I'd rather invest in a good roof than spend unnecessary dollars on feed. That's why I roof my barns with MULE-HIDE. It's proof against any kind of weather. I've tried it and I know and so do some of my neighbors. There's a good reason for calling MULE-HIDE the roofing with—

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Here's another tip and you can bet your life it'll pay to act upon it—if you don't want to have rusty, worthless implements when it's time to use them, you'd better get busy now and roof your implement shed with MULE-HIDE. It certainly pays to have the best."

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

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

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

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

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1919 Winnings to Date				
Mich. State Fair 12 1sts	2 cham.	1 gd. ch.		
N. Y. " 9 1st	2 "	1 "		
West Mich. " 11 1st	2 "	2 "		
Saginaw " 10 1st	4 "	2 "		
International—2 firsts including the undefeated calf herd for 1919.				
Every Animal Bred At				
WOODCOTE STOCK FARM, Ionia, Mich.				

Cloverly Angus cows with calves, rebred; 2 bred cows; 1 two year old, 2 yearling heifers. Price \$2500. 6 yearling bulls, \$225 each. Geo. H. Athaway & Son, Ovid, Mich.

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

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Atta Boy of Maple Crest born April 1919. Sire Imp. Spotswood Sequel A. R. 19 A. R. daughters Dam Imp. Albina price \$175.00. Pride's May King of Avondale born June 1919 Sire Nora's May King of Bailey Falls dam Queens Pride of Harrison A. R. price \$150.00.

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The best of breeding—at prices you will pay—for good bulls—and bull calves—we can't beat the best.
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GUERNSEYS Reg. bull calves, 6 mos. old, at \$75 each. Write your requirements.
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Containing blood of world champions.
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For Sale Yearling Guernsey Bull for \$100. No better animal in Michigan at the price.
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Guernsey Bull, Registered, For Sale, 9 Mo. old, from A. R. dam. Write for particulars. C. A. HENSENEY, Watervliet, Mich.

3 Registered Guernsey bull calves, 1 to 10 months old. Priced to sell.
GEO. W. REEVES, R. R. No. 7, Grand Rapids, Mich.

Reg. Guernsey Bull calf 4 mo. old for \$75. deliver ed. Sire Deasie's May Rose of Allenwood 33278. His 5 nearest dams average 726 lbs. fat, dam of calf Imp. E. A. BLACK, R. 3, Howard City, Mich.

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

Watch Herd (State and Federal Tested) Ypsilanti, Mich. Offers young sires out of choice advanced registry dams and King Komdyke Artis Vale: Own dam 34.16 lbs. butter in 7 days; average 2 nearest dams 37.61, 5 nearest 33.93, 20 nearest 27.83.

GRADE UP YOUR HERD

with a young son of Spring Farm Pontiac Cornucopia 18th, whose five nearest dams have an average record of 36.22 pounds of butter in seven days. Have several ready to sell.
JOSEPH E. BREWER, Grand Rapids, Michigan

The Modern Silo and Farm Management

By A. L. Haecker

THE silo fits in well to our average farm management. This is assuming that the owner of a silo keeps sufficient stock on the farm to warrant such an equipment, let us say ten head or more. The silo is in keeping with economic farm practice as it stands ever ready to insure a crop of forage or fodder. In times of drought, early frost or hail, what has been grown can be saved. The best use of farm-grown forage and the supply of a good and cheap ration are the principal values of the silo.

To best arrange the work of the farm so that each department can be made to turn a profit is one of the important questions of the average farm. Where silos are added to the farm buildings a change of farm management must follow. Less hay is needed, less land is required for pasture, more land must be used for corn or at least sufficient corn must be planted to fill the silo. This corn can be planted thicker than where ears alone are desired. An early maturing variety is generally to be preferred.

The filling season requires planning and this should be done ahead of time in order to secure sufficient labor. If exchange of work is desired plan to exchange with farmers who also fill silos. If this cannot be arranged for, plan to exchange work with farmers who have other rush seasons coming at earlier or later periods. In grain growing sections the threshing is a similar kind of work and is generally done after silo filling. Special work like bean threshing, clover hulling, alfalfa threshing, grass seed threshing, fruit picking, etc., as a rule requires extra help and the man with the silo can arrange to exchange so that he can have his silo filled.

"The silo is the cheapest known source of digestible carbohydrates." This is a truth well proven by many of the experiment stations and practical feeders, therefore to keep live stock and to keep it economically means the use of a silo, if such is possible, and it means that the work of the farm must be planned to accommodate this arrangement. Sufficient stock should be kept on the farm to consume the rough forages and to give a steadiness to the income and furnish work throughout the year. Where silos are filled a rotation of crops can easily be arranged as the corn designed for the silo is entirely removed and the land can be plowed in the fall and put into winter wheat, rye, or alfalfa. Where alfalfa is desired an early variety of corn should be planted and should be cut before the first of September so that the land can be quickly put in condition and planted by the first. This will give sufficient growth of the plant to warrant its living through the winter.

Where land is high it is desirable to use both a winter and summer silo. It is difficult indeed to obtain a revenue or profit from high-priced land in pasture. It does not grow sufficient forage to warrant a profit and the silo can be much more economically used, providing at least six times more feed than pasture. Arrange to have fodder designed for the silo planted close to the farm buildings, thus preventing a long haul at filling time. It is always

wise to grow the bulky forage ration on the farm. If extra feed must be purchased it is cheaper to buy concentrates than rough forage.

The silo is a labor-saving equipment. When it is properly arranged it requires little work to feed twenty or forty head and no team or wagon is necessary. Silage saves hay, also grain in the ration. This will mean that less hay need be grown for the same amount of stock, or it can be sold. Where work horses and young colts are used for farm work they can be wintered cheaply on corn silage with a little straw and oil meal. Some splendid results have been obtained on wintering mares, mules, and work horses on such a ration and it is in keeping with a cheap and easily obtained ration.

Where considerable grain is raised on the farm it would be an easy matter to use the excess labor in feeding steers or sheep. The dairy farm will, as a rule, take care of this problem, but where dairying is not practiced feeding can be resorted to. The silo, on the whole, fits in well to the average farm management and works for economy and good farming. Where a silo stands on the farm it can be pretty sure to mean that this farm is building up their soil. It will be a richer farm, they will grow larger and better crops, there will be work throughout the year, and there will be a steady income.

SHORT COURSES FOR COOPERATIVE LIVE STOCK SHIPPERS.

AS a means of assisting live stock associations toward a better understanding of market classes and grades of live stock, and the methods of handling cooperative shipments at the markets, and in order to improve and bring about greater uniformity in accounting methods, short courses of instruction for association managers, county agents and others have been scheduled for the following markets on the dates indicated:

Detroit, February 10-11; Chicago, February 17-18; Omaha, February 23-24; Sioux City, February 25-26.

These courses are being arranged under the direction of S. W. Doty, Chicago representative of the U. S. Bureau of Markets, Administration Building, Union Stock Yards, cooperating with the National Federation of Cooperative Live Stock Shippers. Also one has been arranged for St. Paul on January 28-29, under the direction of the Minnesota State Live Stock Shippers' Association. Similar courses, held at St. Louis, Kansas City and Denver during the fall under the joint direction of the U. S. Bureau of Markets and marketing specialists of Missouri, Arkansas, Kentucky and Colorado, attracted considerable interest.

It is planned to devote the mornings to a study of grading and the sorting and handling of cooperative shipments in the yards. Afternoons will be given over to extensive discussions by experts on pro-rating of shipments, and association accounting. Other topics of general interest and importance to managers will be presented.





HOLSTEIN SALE AMOUNTS TO \$65,000.

OVER a thousand people witnessed the first annual sale of Holsteins by the Michigan Holstein-Friesian Breeders' Association, which was held at the Michigan Agricultural College, last Tuesday.

Over twenty-seven breeders in the state consigned stock to the association to be sold. It was handled on a ten per cent commission basis. The balance above expenses is to be turned over to the treasury of the association and will be used to promote the interests of the breed within the state. Colonel D. L. Perry, of Columbus, Ohio, and Colonel J. E. Mack, of Fort Atkinson, Wisconsin, were the auctioneers. They were assisted by S. T. Wood, a pedigree expert, from Liverpool, New York.

Best Female Sells for \$3,250.

The female bringing the highest price was "College Belle Butter Lass." She was produced by the Michigan Agricultural College and has one of the best records of any female in the state. Her record for one year was one thousand one hundred pounds of butter. She was purchased by Waters & Buth, of Grand Rapids, Michigan.

Buyers From Other States Present.

One of the interesting features of the sale was the fact that many animals were bid off by men from other states. In this respect Texas led, twenty females being purchased by men from Fort Worth and Dallas. Six went to Minnesota, and five to Pennsylvania.

Sale Nets a Good Average.

Of the seventy females and four bulls that were sold, prices ranged from \$200 to \$3,250. This made an average of \$875 for each animal. Although this was the first sale of its kind in the state it was a success and plans will be made for a larger sale next year.

Following the sale a banquet was given to the breeders at the Congregational Church at Lansing. A good time was enjoyed by all and many interesting questions were discussed.

A. W. J.

MARINETTE IS FIRST TO ORGANIZE LAND CLEARING.

COOPERATION between the banks of the county and the farmers with land to clear is expected to accomplish much for Marinette county, Wisconsin, in the next few years. A county land clearing association, the first such organization in Wisconsin, has just been formed to assist in the campaign for more cleared land. L. F. Livingston, who has been in the office of land clearing operations in the College of Agriculture, is secretary of the association. Headquarters are in Wausaukee.

The association is at present handling the TNT shipments for farmers of the county. Further orders for explosive and land clearing equipment will be made possible through the cooperation of the bankers, who have agreed to make liberal loans to settlers who want to clear the largest possible amount of land.

The directors of the association have been elected from fifteen different communities in the county. The membership fee is twenty-five cents, and every adult resident of the county is eligible to membership. The entire time of the secretary of the association is to be devoted to assisting Marinette county farmers in clearing land.



"The Larro Guarantee Has Stood for Seven Years"

That's what the Larro dealer is waiting to tell you—complete details of the guarantee which means you must get more milk or get your Money Back.

This is the same guarantee of more milk which has stood back of Larro for seven years. To the man who is not yet a Larro user it is an absolute promise of better results from his cows—to the veteran Larro user it is double assurance that Larro today is the same as it was in the beginning—that its quality will never be changed.

Buy Larro From Your Dealer On This "More Milk" Guarantee

Remember that no matter how much milk your cows are producing on their present ration Larro is guaranteed to make them produce more. If your local dealer does not have Larro in stock write us at once.

The Larro-Milling Company, 505 Larro Bldg., Detroit, U. S. A.

Larro-feed

THE READY RATION FOR DAIRY COWS

Facts in BLACK & WHITE

Regular Breeding is a Mighty Factor

Unless a breed of dairy cattle has the power to reproduce itself with certainty and regularity it is worthless. Registered purebred Holsteins are free from inbreeding. They are prolific breeders, as attested by the official records of registration of dairy cattle since 1905. The calves are strong and vigorous at birth. In that year there were registered 9,773 Holsteins, 2,116 Guernseys, and 9,670 Jerseys. Note the relative increase as shown in the figures of 1918-19. Holsteins are far in the lead with 90,887 registrations, Guernseys 16,281, and Jerseys, 35,574. These figures speak volumes on the fecundity of registered purebred Holstein cattle.

Get the whole Holstein Story in our free booklets.

THE HOLSTEIN-FRIESIAN ASSOCIATION
164 Hudson Street
Brattleboro, Vermont

The Traverse Herd

We have what you want in BULL CALVES, the large fine growth type, guaranteed right in every way. They are from high producing A.R. O. ancestors. Dam's records up to 30 lbs. Write for pedigrees and quotations, stating about age desired.

TRAVERSE CITY STATE HOSPITAL
Traverse City, Mich.

\$125 Liberty Bonds or terms gets bull calf born May 23, 1/4 white, 9 nearest dams avg. 23.85 lb. bu., 593 lb. milk in 7 days. Dam addam. of Pontiac Cornucopia M. L. McLAULIN, Redford, Mich.

"Top-Notch" HOLSTEINS

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

McPherson Farms Co., Howell, Mich.

GET A BETTER BULL WINNWOOD HERD

BREEDERS OF Registered Holstein-Friesian Cattle

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

JOHN H. WINN, (Inc.)

Lock Box 246,

Roscommon, Mich.

28 lb. Bull Calf

Dam, Canary Tet Hengerveld, 7 day, 4 year old record, 28.24 butter. She is a daughter of Woodcrest Hengerveld De Kol, a son of Hengerveld De Kol, and a sister to Nancy Lucy Hengerveld, a 40 lb. cow. Calf sired by a son of Rag Apple Kornadyke 8th. Born Nov. 16, 1918. Splendid individual, ready for service. Dam will freshen soon and is a good 30 lb. prospect. Priced very low. Write for full pedigree and particulars.

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

Three Fine Young BULLS

Ready For Service

No. 1. Nearly all white, from an 18.9-lb. jr. three yr. old. Price \$175.
No. 2. About evenly marked, from a 20.75-lb. cow. Price \$150.
No. 3. Nearly all white, from an 18.6-lb. cow. Price \$125.

They are splendid individuals, guaranteed right in every way.

SINDLINGER BROS. Lake Odessa, Michigan

Bull Calf With 45 lb. Blood

Handsomeness, well marked, Born Oct. 30, 1919. Sire: from Niva Kalmuck 45.18. Sire's sire Rag Apple Kornadyke Boon who has remarkable list of 20 lb., junior 2 yr. daughters. Dam: 15.78 B. 356.1 milk at 24 months, not yet reported. Excellent individual. Will be developed. Her sire's dam is 33 lb. daughter of Hengerveld DeKol. Her sire's sire has daughter with record of 48.19 butter. The possibilities are good for this calf to develop into a famous sire. Price \$300.00.

A. W. COPLAND, Birmingham, Mich. Herd under state and federal supervision.

For Sale High class Holstein bull calves sired by Flint Maplecrest Bull calves sired by A. R. O. dams at half price to make room, be quick if you want one they won't last long. RIVERVIEW FARM, Vassar, Mich.

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

BUY your next herd sire from Lake Side Dairy. We have a 25-lb. son and a 24-lb. son sired by our 32-lb. bull that will improve your herd. Write LAKE SIDE DAIRY, Lake Odessa, Mich.

Seven Yearling Heifers

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

LONG DISTANCE

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

CLUNYSTOCK FARM

A Semi-Official Bred Bull to Head Your Herd
Maplecrest Application Pontiac No. 132652, heads Your Herd
His dam's record is 1344.3 lbs. butter, 23,421.2 lbs. milk in 365 days, and 35,103 lbs. butter and 515.6 lbs. milk in 7 days.
One of his sons from our good record dams will carry these great blood lines into Your Herd. For Pedigrees and Prices write to
R. BRUCE McPHERSON, Howell, Mich.

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

33 LB. GRANDSON

of King of the Pontiacs, out of good straight dams, which will be tested this year; sired by King of the Pontiacs. Segis, one of the best proven sons of King of the Pontiacs. His dam 33 lb. daughter of King Segis. Calves to 8 weeks old, three fourths to seven-eighths white. Price \$100, crated and delivered at Romeo, Mich., with registered papers. Herd under federal supervision. J. B. JONES FARMS, Romeo, Mich.

Reg. Holstein Bull, nicely marked, born Dec. 1, 1919, choice breeding, \$50 Reg. and Del. J. Robert Hicks, St. Johns, Mich.

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

For Sale Four Reg. Holstein heifers due to freshen within a month. Good stock. MARTIN MOON, Brunswick, Mich.

MICHIGAN JERSEYS

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

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

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

MICHIGAN JERSEY CATTLE CLUB**The Wildwood Farm**

Jersey Cattle, Majesty strains. Herd on State accredited list. B. of M. testing constantly done. Bulls for sale. ALVIN BALDEN, Phone 143-5, Capac, Mich.

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

Maple Lane R. of M. Jersey Herd. For sale Blue Belle's Premier son of Sophie's Premier that sold for \$1250 this fall. Bulls and bull calves. R. C. Red cockerels. IRWIN FOX, R. 3, Allegan, Mich.

FOR SALE Son of Sultan's Oxford's Houpla 1 yr. old solid color.
C. J. EARDLY, R. 6, Grand Rapids, Mich.

Bulls ready for service from our herd bull Marguerite Premier, son of Pops 99th of Hood Farm, and cows now on test for R. of M. Smith & Parker, Howell, Mich.

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

For Sale Two Jersey heifers, ages, thirty and eighteen months, both freshen in June, for particulars, address, Geo. Webster, South Haven, Mich.

HARWOOD HEREFORDS

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

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

HEREFORDS

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

ALLEN BROS.
PAW PAW, MICHIGAN

If you want cows that will be a pride to your farm — get Jerseys.
If you want prize cows of unquestionable, pure-bred breed and championship calibre — get Jerseys.
If you want cows that feed for their udder, the profit part of a cow, and not for beef and bone — get Jerseys.

JED & EY
The Pride-Prize-Profit-Breed
Jersey Milk is the richest, average 5.37% butter fat. Jerseys thrive in any climate. Butter and cheese made from Jersey Milk is the world's finest and makes big money for farmers.
Write today for "Profitable Facts About Jerseys."
The American Jersey Cattle Club, 322-M.W. 23rd St., New York, N. Y.
An institution for the benefit of every Jersey owner

THE FAMOUS O. I. C. SWINE

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

CRANDELL'S PRIZE HOGS, Cass City, Mich.

O. I. C. SOWS FOR SALE

One of the Best Herds in Michigan
Spring gilts and fall yearlings bred for March, April and May litters. I ship C. O. D., pay express and register in buyer's name. If you want a BIG TYPE sow, guaranteed right in every way, write me.
J. CARL JEWETT, R. 5, Mason, Michigan.

HEREFORDS

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

Herefords. Just purchased 3 new herds, now have 150 head: we offer you anything desired either sex, horned or polled, any age. Priced reasonable. THE McCARTYS, Bad Axe, Mich.

For Immediate Sale at Reasonable prices, Registered and Grade Hereford Cattle of both sex. Write at once. Gates Boyer, Athens, Mich.

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

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

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

Ionia Co. Breeders Ass'n
Have for sale Reg. Shorthorns, Herefords, Angus, Holsteins, Jersey, Red Polls and Brown Swiss Cattle, Shropshire, Hampshire and Rambouillet sheep. Poland China and O. I. C. swine.
FRED W. BRICKLEY, Sec., R. 3, Ionia, Mich.

BIDWELL SHORTHORNS

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

Richland Stock Farms

Home of the Michigan Champions.
Shorthorn Sires in Service:

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

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

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

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

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

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

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

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

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

Wanted Several Scotch and Scotch topped heifers or young cows that are in calf to good Scotch bulls. Lawrence P. Otto, Charlotte, Mich.

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

For Sale Reg. Durham bred heifer, price \$150.00. One Roan Bull, 9 mo. old, price \$100.00.
W. W. SARGENT & SON, R. 3, Linden, Mich.

HOGS

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

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

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

DUROC AUCTION

60 pure bred registered Duroc-Jersey bred sows, boar pigs and gilts will be sold under the direction of the Michigan Duroc-Jersey Swine Breeders Association at M. A. C., East Lansing.

Friday, February 6th, 1920
1:00 o'clock

Every thing sold is backed 'by a guarantee by the State Assn. This offering will be a useful lot of sows and pigs that will go on any farm and make a profit to the purchaser.

Catalogue or further information address Newton Barnhart, St. Johns, Michigan.

SALE COMMITTEE;

Eugene Inwood, - Romeo
Henry Philips, - Milan
Newton Barnhart, - St. Johns

Col. Andy Adams of Litchfield, Michigan, and assistants will conduct the sale.

Duroc Opportunity

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

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

BROOKWATER FARM, Ann Arbor, Mich.
HERBERT W. MUMFORD, owner.
EDRIDGE ENDERSON, Manager.

Walnut Hill Durocs June farrowed boars ready for service from Ira Jackson and Brookwater stock, also bred gilts and sows of all ages for Mar. and Apr. farrow, priced right and registered in buyer's name. Write
JOHN C. DEAN, R. 1, Mason, Mich.

DUROC JERSEYS

CAREY U. EDMUNDS, Hastings, Mich.

DUROC JERSEYS

E. D. HEYDENBERG, Wayland, Mich.

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

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

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

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

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

Raise Chester Whites

Like This
the original big producers

I HAVE started thousands of breeders on the road to success. I can help you. I want to place one hog from my great herd in every community where I am not already represented by these fine early developers—ready for market at six months old. Write for my plan—More Money from Hogs.
G. S. BENJAMIN, R. F. D. 10, Portland, Michigan

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

O. I. C. and Chester White Swine

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

O. I. C's. Last spring boars all sold. Have an extra good lot of last spring gilts, good fall pigs not akin. Good stock, registered free, 1/2 mile west of Depot.
OTTO B. SCHULZE, Nashville, Mich.

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

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

O. I. C. Gilts bred for March and April farrow. I pay express and register in buyers name.
H. W. MANN, Dansville, Mich.

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

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

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

O. I. C's Have some Choice Spring Gilts, bred for spring farrow.
THAYER BROS., R. 1, Mason, Mich.

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

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

FOR Sale—Large Type Poland China Gilts, bred for April farrow. Inspection invited. Free delivery from Manchester. A. A. Feldkamp, R. 2, Manchester, Mich.

Poland Chinas sows bred for March and Apr. farrow. Large type with best of breeding.
R. W. MILLS, Saline, Mich.

MILLER Meadow's L. T. P. C. Boars all sold. Gilts raised by General Jones and bred to our young boar Alaska, address CLYDE WEAVER, Ceresco, Mich.

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

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

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

Big Type P. C. Boars, best breeding, doubly immuned.
A. A. WOOD & SON, Saline, Mich.

TWO HERD BOARS

for sale. Ask for description of a real boar, live wires. Also have a few fall pigs, pair not akin.
C. A. BOONE, Blanchard, Mich.

BIG Type Poland Chinas. Sired by Smooth Mastodon, litter mate to the Ill. Grand Champion. The big boned, deep, long bodied kind at farmer's prices. Wah-be-me-me Farms, White Pigeon, Michigan

Big Type P. C. sows bred to La Big Bob & THIRTY La Giant, fall pigs, none better, call or write.
R. R. LEONARD, M. Fonda, Mich.

THE FUTURE OF AGRICULTURE.

(Continued from page 118).

terminated by every painstaking labor and investigation the cost of producing market milk. The milk commission came into being representing producer, distributor and consumer, and fixed a price for milk based on the cost of production and distribution and the consumer, realizing the justice of the proposition, murmurs little. What the Michigan Milk Producers' Association has done for market milk in the Detroit market, the State and National Farm Bureau can do for agriculture in the whole nation.

Applying This to Live Stock Industry.

The breeder of purebred live stock is interested in the price of wheat or potatoes, etc., as much as he is in live stock. One branch of agriculture cannot prosper for long unless the other branches prosper. All must go up or down together. With little or no profit in beef or pork there would be much less demand for purebred sires because there would be no money to purchase them with. If there is little profit in wool or mutton, or in milk and butter and cheese, the market for purebred animals is seriously affected. So it is a question of united effort for the benefit of all. As Benjamin Franklin said to the signers of the Declaration of Independence: "Gentlemen, we must all hang together or we will each hang separately."

Unless the farmers are united in a strong business organization, prices of food products will be forced down, down, perhaps to pre-war conditions, while the price of other products will remain high. Every time the attorney-general makes a drive at the "High Cost of Living," just one class of products are attacked—food products. The products the farmer produces and sells. Nothing is done to reduce the price of shoes, of clothing, steel or implements or labor. The farmer's products are assailed because he has no organization like the National Chamber of Commerce of the Manufacturers or the National Council of Organized Labor. They know the farmer cannot stand for his rights because he has not the necessary facts and the necessary organization behind him. Why did the market on live hogs drop eleven or twelve cents per pound? Did labor come down or hardware drop in price? Was the cost of production less or the demand even less? Was it not because farm products presented a weak front in the battle line and they knew it? A national organization like the proposed farm bureau, fortified by the facts of cost of production would have held the line against any or all assaults.

Michigan breeders of improved live stock! The future of your business and the future of all agriculture is just what you choose to make it. The world wants beef, good beef, and they are willing and able to pay a profitable price for it if you will conduct your business in a business-like way. The world wants pork, good pork and lots of it, and they must be educated to pay a price that will warrant the farmer in producing it. The world needs mutton and wool. Thousands of acres of now idle land in Michigan alone might be devoted to the rearing of sheep if the farmer was confident that he would get his pay for his time and labor in breeding them.

The world needs dairy products. We never knew until recently how necessary dairy products are for the proper development of mankind. Dr. McCullum's researches in nutrition teach us that with a diet containing dairy products, man is more resistant to disease, he has more vitality. Milk contains vitamins that are almost life-giving in their influence. Our war department gave as a reason for purchasing butter for the army instead of oleo that it

(Continued on page 151).



Full to the Brim

"Old Bess is sure filling the pail these days, Jim—and a while back she came a long way from it."

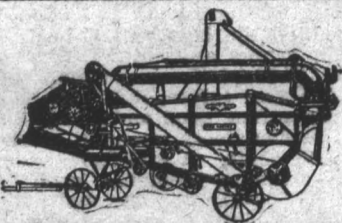
"Belle, too, Joe. I was telling the boss the other day and he just grinned and said, 'Well, I guess neighbor Johnson knew what he was saying when he told me that I would get more milk when I started feeding—'

Stevens "44"

Stevens "44" Dairy Ration strikes the perfect balance between body nutrition and milk production.

The Park & Pollard Co.
OF ILLINOIS

Webster Building, Chicago



Will Soon Earn Its Cost

With a NEW RACINE Individual Thresher you can pocket the threshing profits yourself and prevent the usual losses. Besides, you can soon get back its cost by threshing for your neighbors. Your farm tractor will supply the power.

Made in two sizes—20x32 and 24x40. Will thresh any kind of grain or seed, peas or beans.

Twenty-five years of success in building individual and neighborhood threshers.

More than Ten Thousand in use.

BELLE CITY MFG. CO.

SOLE MAKERS

RACINE, WISCONSIN, U.S.A.

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NEW RACINE

Guard Your Garden

Prevention is better than cure. Keep away blight and mildew and destroy insect pests with a

Brown's Auto-Spray

Our No. 1, shown here, operates by compressed air. Half a million have been in use from 1 to 18 years. Write for Free Spraying Calendar & 1919 Catalog.

THE E. C. BROWN CO. 852 Maple St., Rochester, N.Y.



Garden Seeds. Sure to grow, and true to name. Prize Packet with every order. Catalog free. Allen's Seed House, Geneva, Ohio.

HOGS

Bargains on big type Poland Chinas, both sex, all ages. Shorthorn calves, either sex, and B. P. Rock cockerels. Robert Neve, Pierson, Mich.

Big Type Poland Chinas with quality, at reasonable prices. Pigs of both sex, and bred sows and gilts. G. A. BAUMGARDNER, R. 2, Middleville, Mich.

T. P. C. tried sows and spring gilts, from 1st prize sire and dams, bred for Mar. and Apr. farrow, also fall pigs. H. M. Jeffries, St. Louis, Mich.

HAMPSHIRE

Steuben's Hampshire Farm

A few No. 1 bred Gilts left, a few choice fall boar pigs, can furnish pairs not akin. Booking orders for spring pigs, large type, no better blood lines. Satisfaction guaranteed.

STEUBEN'S HAMPSHIRE FARM

ANGOLA, IND.

Pine Grove Hampshires, "Quality First" Michigan Boy, Grand Champion boar of Michigan, Bred and owned by us. Many other prize winners at Michigan State Fair 1919. Hogs for sale all ages, both sex. "Lookout Joe" a \$1000 boar heads our herd. GEO. COUFAR & SONS, R. 1, Marietta, Mich.

Edgewood Hampshires, spring boars sired by our prize winning and Grand Champion boars. Make the right buy today and get a good one either for Hampshire breeding or for a cross on your other sows. Depue Head, Edgewood Farm, Marion, O.

Hampshires Bred gilts now ready to ship, a few 160 lbs. boars left and fall pigs from new blood lines. JOHN W. SNYDER, R. 4, St. Johns, Mich.

T. P. C. Tried sow and gilts bred to our Grand Champion Boar Big Type King Junior Champion Gerdsdale Timm and first prize Senior boar pig A Wonder Jumbo. W. Brewbaker & Sons, Elsie, Mich.

Big Type P. C. Bred gilts, Fall yearlings, prize winners, out 1100 lb. sire and mammoth sows from Iowa's greatest herds. E. J. Mathewson, Burr Oak, Mich.

Big Type P. C. Gilts bred to Big Orange Model and O. H.'s Defender. None better in State. Priced to sell. W. J. Hagelshaw, Augusta, Mich.

Big Type Poland Chinas, Up-to-date in breeding, with size and quality. We like good ones and believe you do also. Have three choice gilts for sale, bred for April 7, 9, 10, respectively. Their sire at 18 months weighed 640 lbs., not fitted, and stood 40 in. tall, 73 in. long and on a 10 in. bone. They are bred to a great son of Mountain Giant. Write or come and see. You're always welcome. WESLEY HILL, R. 6, Ionia, Michigan.

L. T. P. C. Spring gilts ready to ship also fall pigs both sexes. P. R. ALEXANDER, R. F. D. 6, Albion, Mich., Bell phone 845F11.

T. P. C. Gilts sired by Big Giant and O's Orange. Bred to O's Orange and Col. Jack Jr. No better breeding to be had. L. L. Chamberlain, Marcellus, Mich.

For Sale one registered Poland China sow, age 10 1/2 months, bred. KEITH SEITZ, R. R. Vermontville, Mich.

SHEEP.

KIDS of Mich. You are the future farmers of the state. I am one of the best sheep breeders in the state. Let's get together that you may start your own flock of registered Shropshires now. A lot of kids have already done so, but I want more. I will buy your ram lambs and cooperate with you in every way. Write me for my proposition and prices. KOPEKON FARMS, S. L. Wing, Prop. Box A, Coldwater, Mich.

Whittum Farm Shropshires 50 good ones included 30 imported ewe and ram lambs. None better to start a new flock or improve the old one. 10 imported, one and two year old rams. THE WHITTUM FARM, Eaton Rapids, Mich.

BUY A SHEEP

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

Idle Wild Stock Farms Shropshire yearling rams from prize winning stock. Make your selection early. Cliff Middleton, proprietor, Clayton, Mich. R. 3.

Registered Shropshire bred ewes. 1 to 3 years old. Large, healthy, well fleeced representatives of this flock gave satisfaction in 15 states, last season rams all sold. C. Lemen, Dexter, Mich.

Shropshires Registered ram lambs sired by Imp. Buttar. Also choice bred ewes. W. B. McQUILLAN, R. 7, Howell, Mich.

Shropshire Ewes bred to an imported Minton Ram. For sale by DAN BOOHER, R. 4, Evart, Mich.

20 choice Reg. Shrop. ewes due to lamb in March also about 15 Reg. ewe lambs unbred. Priced for quick sale. H. F. MOUSER, R. 6, Ithaca, Mich.

HORSES

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

For Sale Reg. Percheron Stallions and Mares also a car of grade draft colts. CHAS. A. BRAY, Okemos, Ingham Co., Mich.

THE BEST Percheron Stallion in Michigan for Sale. Must sell on account of poor health. O. L. STOCKDALE, P. O. Box 37, Wayland, Mich.

BLACK registered Percheron stallion 7 yr. old weight 1800 lbs. gray 4 yr. old weight 1800 lbs. JACK PEAK, Niles, Mich.

Latest Market Reports

FIRST EDITION.

The markets in this edition were revised and corrected on Tuesday afternoon, January 20.

WHEAT.

Hoover's statement that Russia cannot export wheat as long as the people of that country are starving, look a great deal of bearishness out of the situation. At Detroit present values are as follows:

No. 1 red	2.65
No. 1 white	2.63
No. 2 red	2.60
No. 3 red	2.57

CORN.

The corn market has a firmer tone and Chicago prices made a fair advance. In the Detroit market there was no change in prices and not many sales have been reported. Receipts and stocks continue small and there is no chance to fill an active demand should one spring up. At Detroit values are as follows:

No. 3	1.51
No. 3 yellow	1.53
No. 4 yellow	1.49
No. 5 yellow	1.46

OATS.

Oats are in good supply, but there is no demand. There were no buyers on hand when oats were offered Monday at a drop of half a cent. Quotations on the Detroit market are:

No. 2 white	88½
No. 3	87½
No. 4 white	86½

RYE.

All of the strength has gone out of the rye market and prices have declined four cents per bushel. There are no buyers and nothing is being said about export demand. At Detroit cash No. 2 rye is quoted at \$1.74.

BARLEY.

The barley market is holding its own with other grains. At present Cash No. 3 barley is quoted at Detroit at \$3@3.20 per cwt.

BEANS.

The demand for beans is improving and the market is steady. Choice hand-picked pea beans are quoted at Detroit at \$7.35 per cwt. At Chicago prices are unchanged, although the feeling is a firm one, due to light offerings. Choice hand-picked pea beans are quoted at \$7.50@8 per cwt. At New York the demand is disappointing and there has been little activity in the market since the first of the year. The receipts of white beans have been light and dealers do not look for any material slump in prices. Choice hand-picked pea beans are quoted at \$7.75@8 per cwt. and choice red kidneys at \$14.75.

SEEDS.

Cash and March red clover took a jump of 50c on Monday. Timothy is firm. Present values at Detroit are as follows: Prime red clover, spot and March \$34.50; alsike \$34; timothy at \$6.40.

HAY.

The hay receipts are not sufficient to make the market any easier. Demand is active and all offerings are promptly accepted at the following quotations: No. 1 timothy \$30.50@31; standard at \$29.50@30; light mixed at \$29.50@30; No. 2 timothy \$28.50@29; No. 1 clover \$28.50@30; rye straw at \$13.50@14; wheat and oat straw \$13.50@14 per ton in carlots.

FEEDS.

There is very little change in the feed market and prices are holding at about their last week's levels. At Detroit bran is quoted at \$47@48; standard middlings \$49@50; fine middlings \$60@61; coarse cornmeal at \$62@64; cracked corn \$65@66; chop \$53@55 per ton in 100-pound sacks.

POTATOES.

At Detroit the supplies of potatoes are light. Demand is moderate and market firm with little change in price. Sales to jobbers of Michigan U. S. Grade No. 1 stock in 150-pound sacks are reported at \$7.25 per sack. At Cleveland the supplies are light, early demand light and movement slow. The market is firm and prices slightly higher. New York and Michigan U. S. Grade No. 1 round white stock in 150-pound sacks is quoted at \$6.75@6.90 per sack.

BUTTER.

The butter market remains firm and active. Receipts are moderate and all offerings are promptly taken, keeping the market well cleaned up. The present quotations at Detroit are: Fresh creamery firsts 60c; fresh creamery at 61@61½c in one-pound bricks.

EGGS.

Fresh eggs are beginning to come in freely, but dealers look for a falling off in receipts owing to the cold weather of the past few days. Present quotations at Detroit are 63½@65c per dozen; storage eggs according to quality 50@55c per dozen.

CHEESE.

The market is active and good offerings find a ready sale. Present values at Detroit are as follows: Michigan flats, June make 33½c; Michigan flats, new make 33c; New York flats, June make 34c; Michigan single daisies 32½@33c; brick 31½c.

POULTRY.

Little change is noted in the poultry market. There is a moderate demand for hens and very little demand for other lines. Present prices for live poultry are as follows: Spring chickens 28@30c for large, 26@28c for small; hens 32@34c; small hens at 27@28c; roosters 19@20c; geese 28@32c; ducks 38@40c; turkeys 44@45c per pound.

WOOL.

At Boston quarter-blood wool has been the feature of the active movement, large quantities going to purchasers last week. Next in interest to the sale of quarter-blood has been the transfer of a fair volume of three-eighths blood territory wool. Such activity is encouraging to the trade, especially the buying of medium wool. Dealers feel that a continued demand will make them independent in regard to the remaining holdings of the 1919 clip. The heavy buying of the past month in medium clips has caused a transformation in the market. This is laid partly to the scarcity of fine wool,

and partly to the agitation for lower prices. The business in fine wools this year has been very light. After long neglect, quarter-blood Ohio fleece has been involved in a good movement. Most purchases have been made at 67c, that price being for approved grading. Three-eighths blood has been the conspicuously active territory grade wool. The market for this class of wool, as well as three-eighths-blood fleece, has been strengthened by substantial inroads upon stock during the past month.

PRICES PAID FARMERS AT THE ADRIAN COMMUNITY MARKET.

The following prices were paid to farmers for products delivered at the Adrian Community Market on Saturday, January 17:

Apples, green per cwt \$4; red \$4.50; beans, choice hand-picked per cwt \$7; butterfat 63c; butter (packing stock only) 30c; cabbage, domestic \$60 per ton; Holland cabbage \$100 per ton; cream, butterfat 63c per pound; eggs henery white 70c per dozen; do gathered white 65c; do fresh brown 65c; hickory nuts 8c per pound; honey comb 32c per pound; do extracted 24c; dressed hogs 14@17c; lambs 15@20c; maple syrup \$2.25 per gallon; maple sugar 30c per pound; mutton 10@12c per pound; onions (dry) \$5 per cwt; do No. 2 \$2.50 per cwt; potatoes No. 1 \$5 per cwt; do No. 2 \$2.50 per cwt; dressed veal 100 to 140 pounds 22c; do 80 to 100 pounds 18c.

Live Poultry.—Cocks 12c per pound; ducks 30c; hens, extra large and fat 26c; do ordinary 22c; springers 22c; turkeys 38c.

GRAND RAPIDS.

Milling companies advanced the paying price of wheat Saturday another five cents to \$2.45 for No. 1 red and \$2.43 for No. 1 white per bushel. The potato market is higher, warehousemen paying \$2.50 for No. 1 sacked. What few farmers brought in they got

Live Stock Market Service

Reports for Tuesday, January 20th

BUFFALO.

Lambs were steady on today's market at \$21; hogs were also steady at \$15.75@16; calves \$24.

DETROIT.

Cattle.

Market opened steady and will close lower.

Best heavy steers	12.00@13.00
Best handy wt bu steers	10.50@11.50
Mixed steers and heifers	9.50@10.00
Handy light butchers	8.25@ 9.25
Light butchers	7.50@ 8.00
Best cows	9.50@10.00
Butcher cows	8.00@ 8.50
Cutters	6.50@ 7.00
Canners	5.50@ 5.75
Best heavy bulls	10.00
Bologna bulls	8.00@ 8.50
Stock bulls	7.50@ 8.00
Milkers and springers	65@ 150

Veal Calves.

Market steady.

Best	21.00@22.00
Others	9.00@19.00

Sheep and Lambs.

Market steady.

Best lambs	19.75@20.00
Fair lambs	17.50@18.00
Light to common	14.00@16.00
Fair to good sheep	10.50@11.00
Culls	5.00@ 7.50

Hogs.

Market 15@20c higher.

All grades	15.75
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CHICAGO.

Hogs.

Estimated receipts today are 46,000; holdover \$15.403. Market strong to 15c higher. Bulk of sales at \$15.15@15.40; tops \$15.50; heavy 250 lbs up, medium, good and choice \$14.90@15.40; medium 200 to 250 lbs, medium, good and choice \$15.15@15.40; light 150 to 200 lbs, common, medium, good and choice \$15.20@15.50; light lights 130 to 150 lbs, common, medium, good and choice \$14.50@15.25; heavy packing sows 250 lbs up, smooth \$14.25@14.75; packing sows 200 lbs up, rough \$13.60@14.25; pigs 130 lbs down, medium, good and choice \$13.75@14.65.

Cattle.

Estimated receipts today are 18,000. Market slow and steady. Beef steers, medium and heavy weight 1100 lbs up,

choice and prime \$17.50@19; do medium and good \$11.50@17.50; do common \$9.50@11.50; light weight 1100 lbs down, good and choice \$13.75@18; do common and medium \$9@13.75; butcher cattle, heifers, common, medium, good and choice \$6.75@14.25; cows, common, medium, good and choice at \$6.75@13; bulls, bologna and beef \$7.50@12.25; canners and cutters, cows and heifers \$5.50@6.75; do canner steers \$6@7.75; veal calves, light and handy-weight medium, good and choice \$17@18.50; feeder steers, common, medium, good and choice at \$8@12.50; stocker steers, common, medium, good and choice \$7.50@11; do cows and heifers, common, medium, good and choice at \$6.75@8.50; do calves, common, medium, good and choice \$8@10.75.

Sheep and Lambs.

Estimated receipts today are 12,000. Market strong to 15c higher. Lambs 84 lbs down, medium, good, choice and prime \$17.50@19.90; do 85 lbs up, medium, good, choice and prime \$14@17; spring lambs, medium, good, choice and price \$14@18.50; ewes, medium, good and choice \$9.25@12; ewes, cull and common \$15.50@18.75; yearling wethers, medium, good and choice at \$16@17.75.

BUFFALO.

January 19, 1920.

Cattle.

Receipts 2,500; heavy steady to 25c lower; others steady; prime steers at \$16@17; shipping steers \$15@15.50; butchers \$9@15; yearlings \$14@15.50; heifers \$6.50@11.50; cows at \$4.50@10.50; bulls \$6.50@10.50; stockers and feeders \$6@10.25; fresh cows and springers \$65@175.

Calves.

Receipts 1,500; 50c higher at \$6@24 per cwt.

Hogs.

Receipts 12,000; are 25@50c lower; heavy \$15.50@15.55; mixed and yorkers \$15.75; light do and pigs \$15.75@16; roughs \$13.50@13.75; stags \$10@11.50.

Sheep and Lambs.

Receipts 12,000; steady to 50c lower; lambs \$11@21; yearlings at \$10@18; wethers \$13@14; ewes \$4@12; mixed sheep \$12.50@13.

AUSTIN FARM DITCHER AND TERRACER

A machine that will completely solve your drainage problem. It cuts a V-shaped ditch to the depth of 4 feet. Sides of the ditch slope at an angle of 45 degrees and will not cave in or wash to any extent.

The Austin Farm Ditcher also grades roads and keeps them in repair; backfills ditches and terraces hillsides.

Reversible blade of all steel construction. You will find the Austin Farm Ditcher the most useful implement on the farm.

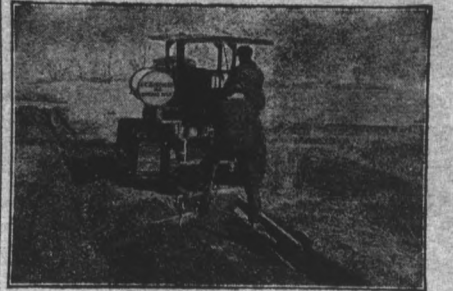
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Stokes Seeds--1920

It is an unusual agricultural catalog, frankly telling of both the good and inferior qualities of vegetables and flowers—also many other things of interest to the country dweller.

Ask for your copy promptly—the edition is limited.

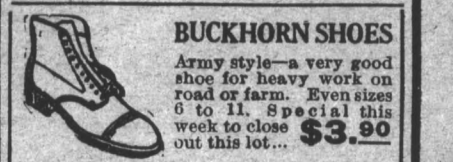
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Wool Blankets, 66x84 - \$7.00
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Heavy Wool Sox, per pair .70
Extra Heavy Shaker Knit Sox 1.00



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Army style—a very good shoe for heavy work on road or farm. Even sizes 6 to 11. Special this week to close \$3.90 out this lot...

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Dairy, Horse, Hog and Poultry feeds. Bran, Middlings, Cotton

seed Meal, Cull Beans.

We want to send you our price list.

YOUNG - RANDOLPH SEED COMPANY, Owosso, Michigan

WANTED—Position as working foreman, or general farm hand, by young married man, small family, only those wishing a first class man, at best wages need answer. Box 8124, care of Michigan Farmer, Detroit, Mich.

\$2.35 per bushel. Jobbers are selling at \$3. Car shipments of Michigan crop so far has been 4,690. There was a sharp advance in clover seed of both medium and mammoth of \$3.50@4 per bushel over retail prices a week ago. Other seeds also show advance. Prices are: Medium clover \$36; mammoth \$37; alsike \$37.50; timothy \$7; alfalfa \$29.40; sweet clover \$22. The egg market is lower for fresh laid, dealers paying producers 60c per dozen in case lots. Storage are a little higher, 54c for firsts and 46c for seconds. Dairy butter is higher, jobbers paying 55c for No. 1 in jars and 40c for packing stock and receipts are light.

THE FUTURE OF AGRICULTURE.

(Continued from page 149).

readily where the patient had received butter in his ration. The world war has proven that children deprived of milk cannot develop normally. Knowing these things, why should we not use some of our money—lots of it—if necessary, to educate the people of the cities to the great importance of dairy products in their diet. The man who produces beef, or pork, or wheat, or fruit, for a living can afford to contribute to such a fund because he is sure to be benefited indirectly. Teach the wage-earning men and women of our cities the real importance of dairy products. Cause them to see and feel that their children, if well supplied with milk and butter and cheese, will develop into more vigorous men and women, having more vitality and greater resistance to disease, will be better men and women, physically, mentally, morally, and that they will have greater respect for the flag and you do more than help the dairyman, you help yourselves and you help mankind, as well.

The horseless age has not yet come and it never will come. Mankind can never get along without the horse. Admit that the automobile outclasses the road horse, but nothing can ever take the place of the race horse or the draft horse. As long as man exists as man, he will pay money to see a good horse race. And as long as there is any work to do, there will be plenty of work for the work horse. The truck and the tractor have only taken the new business that has developed in the industrial world. There are as many horses today as ever and the truck and the tractor can never drive the horse out. The horse is necessary to do business that the truck and the tractor cannot do. The work and the life of the horse is made easier by the truck and the tractor. Man is enabled to do more by their aid and do it better, but now he must have both sources of power. The new cannot entirely displace the old.

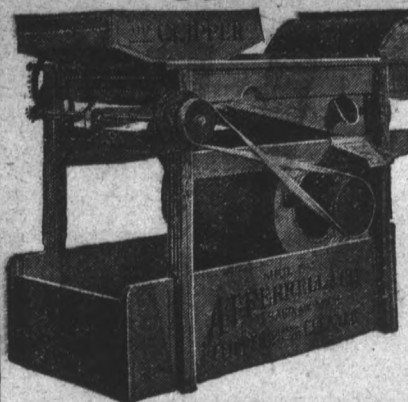
To me, the future of the live stock industry and, in fact, the future of the whole business of agriculture, looks bright indeed. The importance of agriculture has been brought to the attention of the world so prominently by the world war. The necessity of giving the farmer a square deal has been made so obvious to the public and the lessons learned by our farmers have so filled him with hope and lifted him above sordid drudgery that he will, like our army on foreign soil, never retreat and these things that I have predicted will surely come to pass.

LIVE STOCK EXCHANGE MEETING.

The First Annual meeting of the Michigan Live Stock Exchange will be held at East Lansing, on Thursday, February 12, 1920, for the purpose of electing a board of directors and transacting any other business that may come before the meeting. All Cooperative Shipping Associations are urged to elect a delegate to attend this meeting and all members of the exchange are requested to pay their fifty cents per car up to January 1, 1920.

All local cooperative shipping associations having any suggestions or formulated resolutions to come before the annual meeting should be mailed to L. E. Willet, Secretary, Laingsburg, Mich., on or before February 1.

The "Clipper" Grain and Seed Cleaners



The Clipper is different in principle from all other grain and seed cleaners. It has been thoroughly tried out by years of constant use by thousands of the best farmers, the U. S. Department of Agriculture, Agricultural Colleges, Experimental Farms and hundreds of the leading seedsmen, seed corn growers, etc.

The Clipper is the only mill that has the "Vertical Blast", which weighs every seed and kernel, separating the light, shrunken, immature seed from the plump, heavy mature seed, 98% of which will germinate under test. This point alone makes much of the difference between crop success and failure.

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We furnish an outfit of 12 screens for cleaning and grading all kinds of seed, seed grain, seed corn, clovers, alfalfa, millet, timothy, flax, peas, beans, cow peas, soy beans, etc. And after the most careful study and tests in actual work, we guarantee this screen outfit to be the best that has ever been offered with any mill. There are screens for clover containing buck horn or plantain, timothy seed containing pepper grass, for separating cockle from wheat and many other difficult separations.

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Genuine Wild Mallard Ducks
Lay 50 to 80 eggs per year—Guaranteed to be only from Wild Trapped Mallards.

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Fine laying strain of prize birds.

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Larger quantities than ever before are being imported. This seed is unfit to sow. Most home grown seed is of poor quality, so it is very necessary to use care in buying. Our Field Seed Book tells "How to Know Good Seed" and why imported seed is poor stuff. It, as well as samples, are free. We have all other field seeds that are practically worthless. O. M. SCOTT & SONS CO., 114 Main St., Marysville, Ohio.

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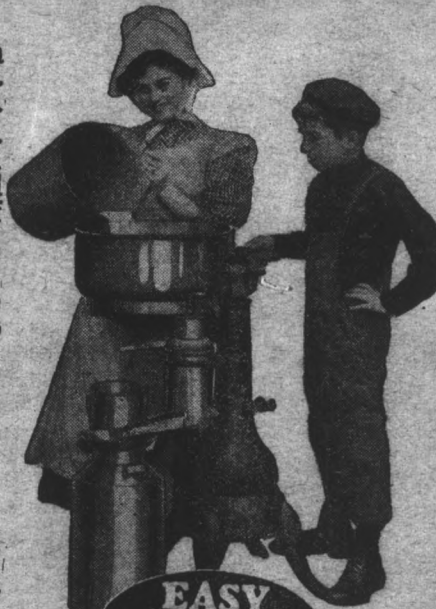
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