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The Farmer and the College

Farmers' week at the Michigan Agricultural College has helped to establish the value of the college as a training ground for farmers. It has come to be generally considered the wise thing for the young farmers to gain a college training. Men trained on the farm alone can eke out a living and in some cases are laying promising foundations for a fortune from the soil, yet they are finding it increasingly difficult to make rapid financial gains. The oldest, most practical farmers who have closely observed the trend of farm affairs are strongest in the faith in a college training. The agricultural college cannot make a wise man out of a fool, but it can give a well-balanced head a fund of knowledge that could not be gained in many years of experience. Each year spent in college saves several years of time and costly experience and gives the young man a better start in business. The Agricultural College from a small beginning has grown amazingly.

The Michigan Farmer

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VOLUME CLVI.

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DETROIT, JANUARY 15, 1921

CURRENT COMMENT

Legislative Plans and Problems

IN his first message to the legislature Governor Groesbeck commented on the ever increasing demands on the state and the ever increasing burden of taxation, and as a first step toward conservation and economy urged changes in the methods of administration calculated to cut out the waste and duplication in administrative affairs. As a means to this end he recommended the consolidation of state boards with related activities under a single head or board; the creation of an administrative board to consist of the elective officers of the state to supervise all administrative matters, and the creation of a state department of agriculture to take over the administration of numerous laws now enforced by various other agencies. Early developments of the session indicate that these plans and the problems they involve will be among the first to be given consideration by the legislature.

The seriousness of this problem and the importance of reducing administrative costs was well indicated by the following figures submitted to the legislature in the governor's message:

"In 1919, the assessed value of all taxable property in the state was \$4,503,980,981. The state tax levy was \$17,432,512.04. The rate per thousand dollars of assessed valuation was \$3.87.

"In 1921, the assessed value will be approximately \$4,800,000,000, and the state tax has been apportioned at \$17,378,328.35. The approximate rate per thousand of valuation is \$3.62.

"The taxes for each of these two years were almost double the highest amount ever previously collected for state purposes.

"The requests and estimates of our departments, boards and institutions submitted to the budget commission for the biennial period of 1921 and 1922 show for the year of 1922 the sum of \$32,173,174.28. Besides this sum the mill tax for the University, the Agricultural College, the Highway Improvement bonds, together with interest on the war loan, and the amount necessary to complete the state office building and general purpose requirement, will amount to \$7,875,000, or a total for the year 1922 of \$40,048,174.28.

"For the year 1923, the sums requested in the tentative budget total \$26,140,928.83; and the mill tax for the University, the Agricultural College, Highway Improvement, and other fund requirements, total \$6,625,000, or a total for the year of 1923 of \$32,765,928.83, and a grand total for the biennial period of \$72,814,103.11.

"These figures do not include any expenditures of the highway department for these two years. This department, under the law, derives its fund from the motor vehicle, driver and chauffeur license fees. The estimate of this department for the year 1922 is \$3,357,050; and for 1923, \$3,550,750.

"Estimating the state revenues from sources other than general taxation,

such as fees, licenses, etc., applicable to budget requirements, based upon the estimates of the different departments, bonds and institutions, the state should receive \$3,398,615 for the year 1922; and for 1923, \$3,447,353.

"Deducting these amounts from the total asked for these respective years, we should have the sum of \$36,649,559.28 raised by general taxation for the year 1922; and \$29,318,575.83 raised in like manner for the year 1923.

"Upon this basis the tax rate for 1922, using an estimate of five billion dollars as the assessed value of taxable property, will be \$7.33; and \$5.86 for the year 1923.

"These figures by no means complete the story. The auditor-general informs me that there is a deficit in the state treasury of approximately six million dollars, with a strong likelihood that it will be considerably augmented by the close of the current fiscal year, namely, June 30, 1921."

These figures show a very real necessity for conservation and economy in administrative affairs, and if a plan can be evolved which will bring about these results it will be welcomed by the taxpayers of the state. They also show a real necessity for either stringent economy in the matter of appropriations or the adoption of some new method of taxation to raise the funds, or both. Certainly the burden of taxation on the farm and home owners of the state should not be further increased. The legislature is confronted by a serious problem in cutting the garment according to the cloth and satisfying the ever increasing demands being made upon it without a further unthinkable increase in the tax rate. The elimination of waste in administration is the right place to begin the solution of this problem.

Good Feeding is Essential

AT this time of the year every successful feeder of live stock is devoting special attention to conditioning the females in his herds and flocks. Breeding function or sexual power is built up and made strong and healthy by good care and a generous system of feeding blood, bone and muscle-building foods. Many stock breeders have been so busy studying the occult mysteries of breeding that they have lost sight of the fact that generous feeding and suitable environment are fully as important a factor in breeding improved live stock as the mating of suitable sires and dams. The mare, the cow, the ewe and the sow will be more certain to breed regularly, produce better young and furnish them with an abundant supply of nourishment if they are in good, vigorous, flesh-gaining condition at the time of breeding, and then fed so that they will gain gradually in flesh and vigor during the period they are carrying their young.

If the farmer desires to have his mares breed regularly he must feed them liberally and provide congenial surroundings. Those who refuse to feed the mares grain and turn them out in the yards with no shelter other than the side of a straw stack to make them tough (to look at) never increased their strength or breeding powers. Sexual vigor is the result of hereditary tendencies that have been developed by care and feeding. Even these hereditary tendencies are usually due to former methods of care and feeding.

The first cousin to the man who wanted to make his brood mares tough is the dairy farmer-philosopher, who feeds his heifers and dry cows scant rations to prevent milk fever at calving time. The young heifer or dry cow that is developing an unborn calf must have plenty of feed to produce a strong calf at birth and give a good flow of milk, but they do not always get it, especially when feeds are high in price. Is it any wonder that some heifers and cows fail to breed regularly and produce profitably?

How frequently we see some very promising young heifer or cow go from the herd of some well-known breeder

into the hands of some poor, incompetent feeder and for want of enough to eat and good care pass into oblivion. The result of years and perhaps a lifetime of proper care and feeding, supported by systematic selection, is lost through careless methods of feeding. The feeding of the mother, who must nourish and build up the frame and give constitutional vigor to the young calf, is the true foundation for a profitable dairy cow, yet the average dairy farmer feeds his pregnant calves and heifers the waste feeds of the farm. The best feeds are given to the cows that are giving milk. The very elements that are needed by the cow at this period are withheld. The carbonaceous foods, which give heat and fat to the animal are but little needed to supply nourishment to the foetus. Simply material to build up blood, muscle and bone during the rapid development while the cow or heifer is dry is needed to nourish the unborn calf. Calves from such cows are frail when born and rarely develop into good producers, and as for the effect upon the next generation—there is no way of measuring the damage done.

The quality of the pig crop and the size of the litters farrowed depends upon the condition of the brood sows and how they are prepared for the mating period and fed during the period of pregnancy. Some of the most successful breeders claim to have had great success in feeding the sows heavy grain rations for ten days or two weeks before breeding them for another crop of pigs. By using rich protein feeds during this period the sows will get with pig safely and produce more vigorous pigs than is the case when they are allowed to begin the breeding season in poor condition.

County Government Again

IN another column of this issue appears a communication from the Kent County Farm Bureau which was inspired by an editorial appearing in the December 25 issue of this journal relating to the proposed changes in the form of our county government.

While the text of the communication indicates an interpretation of this editorial which in part was not intended, the very fact that the farmers of this leading agricultural county are not only alert to the significance of the issue but are especially organized to meet it, is a matter for congratulation. A citizenship that is awake to its opportunities and obligations is certain to keep the ship of state sailing in safe waters.

In line with the inference made in the editorial referred to, rural citizens should look with apprehension upon any attempt to modify or destroy that feature of our county government which ties it up to every locality, and before giving their consent to any change they should thoroughly satisfy their minds that the proposals possess increased desirable features and fewer faults than the form they are intended to displace.

While on the one hand a people should not allow themselves to be handicapped by a form of county government unsuited to their changed social and economic conditions, they should remember that the present county government is the product of years of careful study and experience running through the various conditions of stress and strain occasioned by the rapid development of the country. These experiences should not be set aside readily for an untried program.

Not the least encouraging feature of the situation as it now stands is the fact that the farmers of Kent county and possibly of other counties of the state have already organized to study this issue. On the other hand, the majority of the counties of the state are predominantly agricultural and would

be little affected by a change that might shift greater political power to the cities. For this reason it is to be hoped that farmers and farm organizations everywhere throughout Michigan will give the question of county government a prominent place in their discussions this season to the end that the course may be chosen which will bring political equality and justice as between rural and city folks.

News of the Week

Wednesday, January 5.

AT the opening of the Michigan state legislature the fact is revealed that the budget to be asked of that body by the various departments and institutions of the state approximates \$72,000,000.—The federal house of representatives passes the resolution providing for the revival of the war finance corporation over President Wilson's veto, and thereby makes the measure a law.

Thursday, January 6.

MARQUIS OKUMA, ex-premier of Japan, declares responsibility for world competition in armaments is between Great Britain and the United States.—Individual members of the council of the League of Nations are considering the advisability of sending an envoy to President-elect Harding to present the case of the league.—A slump in ocean traffic has caused the withdrawal of large passenger ships in the British-American service.—Official reports indicate that France has sufficient coal to supply her needs for the next six months, and that contracts with American companies have been cancelled.—Reduced railway rates become effective in Canada, the cut amounting to thirty-five to forty per cent on freight and ten per cent on passenger fares.

Friday, January 7.

THE domestic production of copper for the year 1920 amounted to 1,753,000,000 pounds.—The first shipment of gold received from the Orient for a long period arrives in New York from India.—The house census committee agrees to fixing the membership of the house at 488 members, an increase of forty-eight over the present membership.—Seven lives and possibly more are believed to have been lost with the United States-Alaska mail boat Pulitzer.—Commodity prices at wholesale fell 6.2 per cent during the month of December, according to Dun's index.

Saturday, January 8.

THE French government has decided to insist on the strict fulfillment of the Spa agreement concerning coal deliveries by Germany.—France indicates a desire to have an American representative present at the allied conference on German disarmament and reparations.—The annual convention of the farmer-labor cooperative congress is held in Cleveland.—By a unanimous vote, the senate of California adopts a resolution asking the national government to agree to no treaty with Japan that would nullify the anti-alien land law of that state.—Six persons perish in a hotel fire at England, Ark.

Sunday, January 9.

INABILITY to determine who was elected at the recent Cuban elections promises to develop a political crisis which may necessitate another American intervention.—The Italian government agrees with a number of American syndicates for a supply of wheat sufficient to last until the coming harvest.—President-elect Harding resigns as United States Senator from Ohio.—Alberta wheat is being shipped to Europe through the Panama Canal.

Monday, January 10.

FREIGHT rates from Puget Sound ports to the United Kingdom are cut.—The United Mine Workers of America are raising a fund of one million dollars to aid the coal miners of Alabama in their fight with operators.—All negotiations looking to peace in Ireland have broken down, according to reports from official circles.

Tuesday, January 11.

THE New York Automobile Show is being attended by large crowds and dealers report an early indication of aggressive buying this season.—The United States Senate is considering charges that the British government is exercising surveillance over all the American cable business, official and private, passing through the British Isles.—Fire in the Department of Commerce at Washington destroys priceless census records dating back to 1790.

Report on Farm Tenancy in Illinois

And Suggestions in Which Michigan Farmers Will Be Interested

THE evils of excessive farm tenancy and absentee land ownership are generally recognized, but Illinois was the first state to make an official investigation of the subject. Illinois has the highest percentage of tenancy of any northern state, almost half the farms being rented. In some of the richer counties of the corn belt the percentage runs as high as eighty or more.

Coupled with this high percentage of tenancy is a large amount of absentee land ownership, the most aggravated case of which is the Scully estate, owning forty-eight thousand acres of the richest land in Illinois. In Livingston county, one of the five richest counties in the United States, twenty per cent of the farm land is owned by persons living along the Atlantic seaboard.

Renting conditions in Illinois had become so unsatisfactory by the winter of 1919 that a number of bills were introduced to better the situation. The legislature, feeling that it lacked the information to act intelligently, authorized Governor Lowden to appoint the "Illinois Farm Commission" of five members to investigate the subject and make recommendations to the next session.

Speculation in farm land, inflating prices to a point far beyond its real producing value, is the underlying cause of most of the evils of farm tenancy, according to the commission's report, which has just been made public. High land prices make it increasingly difficult for tenants to become land owners, and induce landlords to push rents up to a point as high as the traffic will bear in an attempt to secure a return on their inflated investment.

The commission makes the following four specific recommendations:

1. A transfer tax of one per cent on all farm land resold within one year.
2. A "tenant right" law, to compensate tenants for improvements put on the land at their own expense.
3. Legislation to provide for local second mortgage association, and to improve the position of second mortgages as first-class security.
4. An appropriation of \$25,000 to the farm management department of the

University of Illinois to make an intensive tenancy and land ownership survey of several typical communities.

Conditions will not be greatly improved, in the opinion of the commission, until speculation is checked and land prices kept somewhere near its productive value. The tax of one per cent on all resales within one year would help materially to check speculation, in the opinion of the commission. It may be taken for granted that if a man resells a farm within a year, he bought it for speculative purposes. There are exceptions, of course, as in case of death, which could be provided for in the law. The tax suggested is a very mild one, as is the period to which it applies. The commission felt, however, that even as light a tax would help, and that once the principle is established the rate can be increased later if necessary.

The full statement of the commission on the question of a tenant right law is as follows:

"With the large percentage of tenancy in this state, the tenant necessarily is an important factor in maintaining the soil, and he should be encouraged and protected in his efforts to do so. Therefore we recommend a tenant right law, properly safeguarding the rights of both landlord and tenant, to encourage the tenant to build up the soil and the farm generally. This law should provide for reimbursement

of the tenant at the termination of his lease, for the improvements he puts on the land with the consent of the landlord. It should also protect the landlord against the unnecessary destruction of his property by a careless tenant. This would encourage both good landlords and good tenants."

A bill covering this subject was introduced in the Illinois legislature two years ago and will be reintroduced this winter. The bill will probably go somewhat further than the commission report, providing for compensation for the tenant, with certain safeguards, even if the landlord did not consent to the improvement.

The commission did not recommend the formation of a state farm land bank, feeling that such a step might not be necessary if the federal land banks get into operation soon. It did feel, however, that some means should be provided to finance liberal second mortgages with local capital, in order to enable young farmers to buy land on the easiest possible terms consistent with safety. The commission believes that this second mortgages business may be handled by local loan associations incorporated under a special law enacted for that purpose.

The thought behind the request for a \$25,000 appropriation for a tenancy survey was that such a survey would provide much fundamental information that would be of great help in guiding

future action on the tenancy problem. Such a survey should collect the complete history, if possible of every piece of land and every land owner in the territory surveyed.

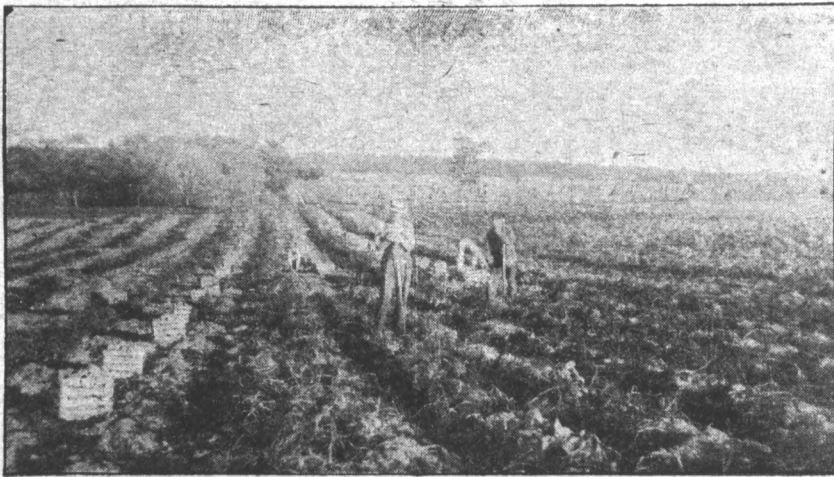
The committee arrived at its conclusions after holding seven public hearings digesting practically all the available literature on the subject, and questioning a number of experts. The public hearings were held at typical points throughout the state.

"Few tenants living under unfavorable conditions appeared at these hearings," says the report. "They would naturally refrain from coming before the commission and telling of the bad conditions under which they were living, as in many cases such action on their part would terminate their leases, yet there was a fairly representative attendance of landlords and tenants of the better class at each meeting. They gave an apparently fair report of the conditions under which the land is farmed by both owners and tenants in each locality."

Contrary to the opinions widely proclaimed, the commission found practically no evidence to warrant it in condemning the one-year lease. "Most of the landlords and tenants took the ground," says the report, "that where both the parties were satisfied a long term by the tenant naturally followed. On the other hand, if either party to a long-term lease becomes dissatisfied, it makes very unpleasant working conditions between the two, which could not be terminated until the expiration of the lease."

Absentee landlordism was condemned by the commission in discussing conditions in central Illinois. "Many of these farms," it says, "are owned by absentee landlords who generally take little interest in community life or in maintaining their farms."

The live stock share system of leasing was found to be by far the most satisfactory. Under this system both landlords and tenants were found to be prosperous and satisfied in the great majority of cases. This system, of course, cannot be used on grain farms but even there the share renting system was found to be far superior to the cash plan. There is comparatively little cash renting in Illinois.



Mr. Sutton, Antrim County, Gets 419 Bushels Per Acre.

Filling the Home Pork Barrel

How "Uncle Dave" Cornered a Wee Part of the Meat Market

By J. Hugh McKenney

UNCLE DAVE RAMSEY, of Ramsey's Corners, is the champion home pork maker in our end of the county. Because of this little notoriety he has come to be his own packer. When the neighbors found out that a better brand of pork was being turned out right at home than the big abattoir would supply at double the price, they weren't slow in patronizing the local industry. So it came about that hog-killing times at the Ramsey farm were "red-letter days." Along in January when the weather had settled zerowards and promised to stay there, one might look any morning to see a wreath of smoke ascending from Uncle Dave's killing house. This was a signal that everything was in readiness and was sure to be promptly responded to by half a dozen stalwarts—with visions of real country sausage and spareribs—ready to lend a hand.

"Is there any best time for this business, uncle?" I inquired, as several of the stalwarts rounded up a two-hun-

dred-pound cross of Berkshire and Tamworth.

"Well, I don't pay any attention to the moon, not being much on astronomy, if that's what you mean," he laughed. "I do look to the marketing end though, and this seems a good time from that standpoint. People like beef and poultry during the holidays, then they want a change, and there is a call for pork. I try to have my hogs ready when the demand is likely to be greatest."

By this time hog number one was ready for scalding, the killing having been done carefully and with no unnecessary excitement. A gambrel stick, uniting its hind legs, was then inserted for convenience in lifting the carcass to the scalding platform. Uncle Dave's method of handling was unique. Instead of all hands expending their last ounce of strength in sousing two hundredweight of dead hog, he had planned to make the job

almost child's play, and perhaps that was the reason helpers were so plentiful. An old-fashioned sweep-pole, that I suppose did duty in the days of "the old oaken bucket," was fastened by means of a swivel joint to the top of an upright post. By attaching the gambrel to the short end, the carcass was easily lifted from platform to scalding vat and back again. Later, the same contrivance carried it to a horizontal pole to which it was hung up.

While another victim was being captured and put through the scalding vat, Uncle Dave proceeded to dress the one strung on the pole. First, it was thoroughly washed down with warm water, carefully scraped with a knife, and then rinsed off with cold water. Next, came the opening process. Here considerable caution was exercised in order not to cut or rupture the intestines. Then, with the removal of the entrails, more fresh, clean water was used, and the carcass washed on the

inside. Everywhere cleanliness was the first consideration. "There," said he, putting the finishing touches to his work, "that one will be all drained out and ready for cutting up in the morning."

Well, that job was finished at last, but the moon was beginning to show itself when Uncle Dave doused the last pail of water on the fire and sang out: "Hurrah boys, for supper!" Glancing back at the long rows of clean white carcasses stretching clear and cold toward the ground, I could appreciate the real beauty of the hog. Then getting a whiff from the kitchen I was ready to agree with Dr. van Dyke that "the course of empire was greased with the bacon fried on the way."

The following morning I was on hand to help with the cutting. With the help of the sweep pole we got the first carcass down onto the chopping bench, square on his back.

"Now the first thing we've got to do is to take off the head," remarked

Uncle Dave, making a cut just back of the ears and thence down through the sticking hole to the throat. "By taking the bone out, that jowl will go as a pretty fair piece of bacon, and the pate worked up into headcheese will make a dish fit for a house of lords."

The backbone was then split down through the middle with a saw, after which the hams were cut off about two inches forward of the pelvic bone, slicing at nearly right angles to the foot. "If you cut square across the carcass," he explained, "the ham will be pointed and will have to be trimmed more, which means waste. On the other hand, if cut exactly at right angles to the foot, while the ham will be square, the bacon will have a sharp corner, needing to be trimmed extra. You see, I'm trying to compromise between the two extremes."

Inserting a knife between the third and fourth rib the shoulders were soon cut off. "Hams and shoulders take quite a good deal of trimming no mat-

ter how you manage it," he went on, "that is, if one does the job right. We have to have them well rounded, not so much because they look better, but too much fat prevents meat from curing properly. By exposing the lean meat as much as possible, it takes the pickle more readily, and for that reason there is less danger from spoiling."

"Now, then, for the spareribs. You have got to be a little careful or they are too spare or too generous." In performing this operation the cutting was done from the back side toward the belly, the knife being held flat to avoid gouging the bacon.

The foregoing manoeuvres were carried out as many times as there were carcasses to cut up. After a pretty steady spell of cutting, sawing and chopping, intermingled with sundry explanations by Uncle Dave, the pieces of cut meat began to accumulate. So between the dissection acts, I was kept tolerably busy carrying them to the smoke house. Finally, the scene

and the nature of our activities shifted. A number of barrels that had been airing outside after a thorough scrubbing, were brought in to serve as containers for the meat during the curing process.

"Which is it to be, uncle?" I inquired, "dry cure or brine pickling?"

"Oh, the brine," he replied, "it takes less labor, and there isn't the risk if the weather don't stay cold. I've seen a good deal of dry-cured pork spoil during a muggy spell."

Accordingly, we prepared a brine sufficient for each one hundred pounds of meat, consisting of eight pounds of salt, two pounds of brown sugar, two ounces of saltpetre and one ounce of red pepper. These ingredients were stirred into four gallons of hot water until dissolved, after which the mixture was allowed to cool.

"A little saltpetre helps to keep the natural color of the meat," observed Uncle Dave, "but it has the drawback of making it dry and woodlike. Sugar

is good for the color and at the same time gives tenderness, so I like to use more of it and less of the saltpetre than most people do."

In packing the meat in the barrels salt was used in the bottom and between each succeeding layer, after which the well-cooled brine was poured over it and the whole weighted down with a large stone.

"Well, that's done," I remarked casually as the last barrel was finally weighted down.

"For the present, yes, but it's a case you can't hurry," was the rejoinder. "In about a week that meat will all have to come out and be reversed, that is, the top pieces will go in the bottom and the bottom pieces on top. Ten days later the overhauling has to be repeated. It takes from four to six weeks altogether for a thorough curing. Then, if freezing weather is over, it is hung up in the smokehouse and a smudge kept going for two or three weeks, after which it goes into sacks.

Michigan Agricultural News

VOTE TO CONTINUE MICHIGAN WOOL POOL.

SEVERAL hundred wool growers gathered in the Kerns Hotel, Lansing, last Friday to discuss the wool situation. Fifty of them were duly elected representatives of counties and spoke for approximately eighteen thousand farmers who had pooled wool in the State Farm Bureau pool. The meeting lasted only two and one-half hours. It was characterized by an undaunted determination to continue pooling for another year and to hold the present stock as long as the State Farm Bureau thought it advisable. Confidence in the present work of the State Farm Bureau regarding wool handling was recorded in a special motion to that effect.

Most of the delegates had come instructed. Some of them reported that their counties were definitely in favor of holding the three and one-half million pounds of wool now in storage for another year. The final consensus of opinion was that the management of the pool should be left entirely unhampered. Upon the suggestion of the State Farm Bureau the delegates passed a motion for the appointment by the chairman of two wool men who would act in an advisory capacity similar to the organization of the other departments.

A. E. Illenden, member of the executive committee was chairman of the meeting. He and A. J. Hankins, marketing director, made detailed reports upon the expenses of the wool pool. The delegates asked many questions and seemingly left the meeting with a very definite impression of the exact situation. A resolution was passed favoring the passage of the national truth-in-fabric bill.

Delegates were particularly interested in the manufacture of wool into blankets. Some were in favor of the farm bureau proceeding along this line as far as it was thought advisable. Such manufacturing was shown to give the wool grower double the price for his product and give the buyers of blankets a virgin wool article of superior grade at a comparatively low figure.

FARM BUREAU NOTES.

MANAGERS of cooperative elevators from all over the state, including those of the forty-two associations which are members of the State Farm Bureau Elevator Exchange Department, have been invited to a meeting on January 18 at the Michigan Agricultural College. The purpose of the

meeting is to discuss problems of elevator management, organization financing, sales service, and problems common to all cooperative elevators.

The forestry department began January 3, with F. H. Sanford in charge. He is asking that the names of farm bureau members who are cutting fence post timber or expect to cut soon, be sent to the county agents to be forwarded to the state office. On Friday Mr. Sanford called into conference the forestry experts from all parts of the state for a discussion of legislative problems.

Arrangements for the better marketing of maple products will be made by a committee of ten from the Michigan Maple Syrup Makers' Association in conjunction with the forestry department on January 14. The association has taken a ballot by mail concerning the best method of handling their product. Seventy-two per cent of the members favored a central canning and marketing plant whereby the product would be standardized and sold under registered label and according to the grade. Twenty-eight per cent of the members were against this move and eight per cent declined to express themselves.

Mr. J. W. Nicholson, manager of the seed department, is on a short tour of northwestern states helping the Grimm alfalfa growers of that section to organize. The example of the Michigan State Farm Bureau has proved an incentive to the northwestern farmers. Offer of cooperation has been a further inducement. Mr. Nicholson appears on the program at Ames, Iowa, during Farmers' Week. Tuscola county has added itself as a department of the State Farm Bureau Seed Department, bringing the total to forty-three.

The purchasing department is making a thorough investigation of the purchase of binder twine. Business in the various commodities is developing beyond all expectations.

F. E. Coombs, traffic commissioner of the Michigan State Farm Bureau, was appointed representative of the Michigan Live Stock Exchange at a recent meeting in Jackson to go before the Inter-state Commerce Commission at Chicago on January 11. Mr. Coombs will attend hearings on freight rates relative to the minimum weight of different classes of live stock allowed by railroads on straight and mixed cars. The present minimums for inter-state shipments are 12,000 pounds of sheep, 17,000 pounds of calves, 22,000 pounds of cattle, and 16,000 pounds of hogs. The live stock men want a uniform system on all roads with a lower minimum.

PLANS FOR FARMERS' WEEK TAKE DEFINITE FORM.

A REDUCED railroad fare of one and one-third has been secured by Ashley M. Berridge, chairman of the committee in charge of plans for farmers' week, to be held at M. A. C. from January 31 to February 4, and as a result the number attending from all parts of the state is expected to be greatly increased.

Indications are that the great annual round-up of the state's agricultural interests will be fully as significant as last year's when the general policies of the Michigan Farm Bureau took definite form. The change in the business situation of the nation has brought the farmer face to face with critical problems and the farm bureau at its annual meeting is expected to put forth a definite constructive program.

Second only to the farm bureau business session will be the meeting of the agricultural division of the Michigan Bankers' Association, which will convene for the first time in connection with farmers' week. Inasmuch as some of the most knotty questions now facing the farmer are financial, this meeting is attracting deep and widespread interest. Representatives from each of the county bankers' associations will be present for the sessions, which will be held on Tuesday and Wednesday of that week. At Tuesday afternoon's meeting, which will be an open one, it is planned to secure as speakers bankers and agricultural leaders of national reputation.

The list of illustrious men who will be at M. A. C. for farmers' week, which already contains the names of President Marion L. Burton, Governor Harding, of Iowa, S. S. McClure, the famous publisher, and others, has been augmented by that of Lee L. Driver, director of the bureau of education in Pennsylvania, who will give an illustrated lecture on Thursday night.

Assembling of the various exhibits is rapidly going forward. Probably the display of grains which won high honors and much favorable comment at Chicago recently will attract the greatest interest. In this exhibit will be the twenty-two samples of Rosen rye which led their field at Chicago. The horticultural department is also bending every effort to outdo all other performances in its annual show in the armory.

Arrangements for entertaining the thousands of guests are already being made. Available room within easy reach of the college in East Lansing and Lansing are being listed and signs that will point the way to the various

buildings where meetings will be held are being prepared.

As for recreation, on Tuesday night visitors will be entertained at the M. A. C. Notre Dame basketball game, while later in the week, if tentative plans are carried out, a grand parade of all the movable property of the college will be held.—HENSEHAW.

KENT FARMERS ANXIOUS OVER COUNTY GOVERNMENT PROPOSALS.

THE following communication was written at the request of the citizens' committee of Kent county duly chosen at a mass meeting to discuss the county government proposition, and was adopted by the Kent County Farm Bureau:

"In the Michigan Farmer, (issue of December 25), appeared a very fair editorial on the subject of 'Our County Government.' However, the writer will be pardoned if he states that many Michigan farmers with whom he has conversed regarded the editorial as favoring this proposed innovation in county government. Perhaps this was not the intent of the editorial, none-the-less this interpretation of it is quite general in Kent county. Frankly, it is felt that The Michigan Farmer did not go quite far enough in its analysis of this proposition. After referring to the submission of a constitutional amendment necessary 'before anything could be accomplished in county government reorganization' it states that the sponsors of the movement desire 'that the voter of the several counties should elect the type of government to be used, thus forcing the issue on no one, but giving the people of any county the opportunity to better their form of government or experiment in that direction.' Experiment is a most excellent word in this connection.

"If the next session of the legislature submits such an amendment to the Constitution it will certainly carry, since Detroit, Grand Rapids, Flint, Bay City, Saginaw, Kalamazoo, Battle Creek, and other cities will be able to carry the referendum.

"It is worthy of note that this proposed amendment had its inception in the very cities above named. Not one outstanding state leader who lives in the open country has had any leading part in promoting this movement.

"Is it true that the issue is forced on no one? We are speaking now for Kent county. Outside of the city of Grand Rapids, the farmers, business men, professional men—the population (Continued on page 85).

Costs of Stock Feeding Reduced

Both Commercial and Home Grown Feed Prices Are on or Near Bottom Levels

By Sanders Sosland

FEEDS are approaching a level which makes advisable a friendlier attitude toward the market. The greater opposition to bearish pressure on prices, which stands out as one of the significant developments of the past month, offers some evidence that the bottom on values is not distant. Notable price changes must yet be recorded, however, but these doubtless will be confined to the feedstuffs which have not followed closely in the general trend toward lower levels. In recent weeks, for instance, linseed cake and meal have been under strongest pressure, and the belief prevails that the flaxseed by-product must yet decline further. This protein concentrate was slow to join in the declining procession of prices and is yet at a disparity. This is true also of bran, which is now selling at an actual premium over shorts on many important markets. Alfalfa and other varieties of hay also must decline further. Most other feeds are approaching bottom.

Operators in feedstuffs markets are centering their attention on the fluctuations in corn. They recognize that the coarse grain has entered, or is about to enter, a period in which the country movement and the price changes will place the market in a more certain light and that material changes in the position of corn will have much to do with the trade in other commodities used in live stock feeding operations. A bullish demonstration in the corn market would offer much encouragement to the handlers of other feeds and might even lead to a broadening in the demand from the consuming trade and thus strengthen all prices.

On the other hand, recessions in corn, which are probable in face of the fact that values already are cheap and below cost of production, would merely stimulate the present extremely bearish tone of the general feed trade. Corn is now quite cheap and at a possible disparity under most feedstuffs, which is somewhat favorable to the grain.

IN what direction corn prices will fluctuate is dependent more upon the movement from the country than on the demand situation. The demand prospects are not favorable to a sharp upturn in prices. Cattle markets are in a demoralized condition and feeders are not receiving even first costs on their stock to say nothing of feed and labor and investment expenses. There are fewer cattle on feed, far less than a year ago, and this is true also of hogs. On the basis of the current market, hogs are above a parity with corn, and if hog prices are maintained, corn may hold up better than the trade as a whole anticipates; in fact, advances may be recorded. But there is serious doubt as to the position of hogs. Feeding requirements of corn are being further reduced by the comparatively mild weather in most sections of the country, the abundance of other feeds and the tendency toward economy in the use of grain. An extensive dealer in corn who a year ago up to this time sold more than a fourth of a million bushels to feeders in one prominent feeding community reported recently that his earlot sales to cattle operators can be counted on his fingers. The corn products industries, too, are buying very sparingly.

There has been a slight increase in the movement of corn, but the extent of the increase has been rather disappointing in view of the immense surplus in the country. Apparently, farmers are holding corn and refusing to sell at the current prices, but an accurate idea of the probable movement

from the country cannot be gained for another month. With country roads in good condition, the remainder of January and forepart of February may be used as an accurate gauge of the probable marketings from the interior. This is usually the period of largest receipts on markets of the country. Observers of the trade as a whole anticipate a heavy movement, due to the disappointing level of cattle, the weakness in hogs and the large surplus available in the important producing sections. And no little significance is attached to the fact that many farmers are in need of cash and will dispose of much corn despite dissatisfaction with the price. Cash corn is now selling largely between sixty and seventy-five cents a bushel on markets of the middle west, with the average price paid farmers around forty cents a bushel and even less at points more distant from terminals. The price will hardly cover the costs to farmers. Pressure of renters' corn on markets may be an important bearish factor.

PRIce changes in the oat market have been extremely narrow the past month, slightly higher if anything.

On middle west terminals, including Chicago, the price is holding around fifty cents and down to forty-five cents. No important demand prevails on markets, but with extremely light arrivals, which are usual for this season of the year, values are holding firmly. A rather bullish influence in the oat trade is the belief that country elevator stocks are light and that the surplus in farmers' hands is smaller than has heretofore been believed. Still, this is offset in a large measure by the comparatively heavy stocks at visible supply points of the country, which amount to more than thirty million bushels, double the total a year ago. Bulls in the oat market will doubtless encounter strong opposition in forcing values up, majority sentiment leaning to the view that values may yet undergo further declines to a parity with corn.

WEAKNESS in linseed cake and meal is attributed to the liberal stocks of the product on hand at crushing plants of the northwest and east and the inability of the trade to provide shipping instructions on both new and old orders. Instructions on some linseed cake and meal due more than

sixty days ago have still not been received, and, with buyers facing losses of \$25 to \$30 a ton on some purchases, they are naturally slow to provide directions. Demand from feeders remains extremely light, nor are the prospects for improvement in demand encouraging. Favorable weather, the abundance and cheap price of corn, about half the cost of linseed feed, are expected to continue a strong check on buying.

Minneapolis crushers are offering linseed cake and meal around \$39 to \$40 a ton, basis that market, for carlots, about \$8 a ton less than a month ago. The eastern markets are slightly under this basis, the almost total absence of foreign demand depressing prices. So long as foreign exchange rates remain at a sharp discount, and there is little likelihood of material improvement for some months, European demand is not expected. Another bearish influence in the domestic market is the comparatively liberal imports of flaxseed from Argentina, which continue on a large scale despite the low prices on United States terminals. The weakness in prices for flaxseed naturally make for easier quotations on linseed feed. On the other hand, the difficulty being experienced by crushers in disposing of their linseed oil is reducing operations in the northwest and east, thus reducing the production of cake and meal. But it is not yet time to accumulate stocks of the protein concentrate.

Soy Beans on Light Soils



THIS leguminous crop when cut green yields a hay higher in proportion than alfalfa. The field shown was very "lean" sand land, which had failed to grow clover. It was fall-plowed and well worked until June 3, and the beans were drilled with a disc grain drill shallow in rows twenty-seven inches apart, using half a bushel of seed to the acre. They were a perfect stand and many of them stood as high as a man's waist when ready to cut.

The crop was cultivated four times—once to conserve moisture in a dry time. When other beans were a complete failure in this locality the soys suffered but little and when rain did come they grew rapidly and began to pod well. We began cutting September 12. The pods were then about an inch long. An ordinary six-foot cut mower was used, taking three rows at a time. They were raked into windrows when the dew was yet on the cocked and allowed to cure in the cock.

They shattered but little and when in the cock shed rain admirably. From three bushels of seed costing twenty-one dollars, twelve tons of cured hay was obtained. A two-horse, one-row cultivator was used for cultivating, and for the last two cultivations this the sweeps were attached instead of the regular shovel teeth.

The plants develop an immense system of hair roots which deep cultivation would ruin. The sweeps produced a perfect dust mulch and left the ground level for the mower. The Ito San variety was grown and the seed was inoculated by the glue method, the culture being obtained from the Department of Bacteriology at East Lansing. Soy beans do not run the land as do millet or some of the boosted grasses of the seed company type, and they produce a high protein hay. My cows are being fed on them at present and they eat them with as much relish as they do alfalfa. Sheep clean them up, stems and all.—W. D. ALLEN.

THE trade is not so bearish on cottonseed cake and meal, but there is nowhere evident any strong bullish manifestations. The best bullish argument is the low price at which the concentrate is selling. At one time within the past month prices ranged down to \$22 a ton in Texas and about \$25 in Arkansas, but there has since been a bulge of about \$1 to \$2 a ton. Prices in the middle west and central states feeding territory average around \$35 a ton for forty-three per cent protein cake and meal. Some improvement developed in the demand situation, that is, for feeding account, but apparently the surplus stocks in commercial channels are too great to permit a strengthening in prices. The stocks in crushers' hands are liberal, and many jobbers and operators are burdened with holdings bought at higher prices. Foreigners are taking very little cottonseed feed, and the inquiries from Europe are very light, indicating an almost total lack of interest. The south is badly depressed over general trade conditions, and crushers are carrying on their sales department in a manner which is not favorable to a bulge in prices, though values already are actually below a pre-war basis. Cottonseed feed around \$20 a ton, Texas, for forty-three per cent protein, and on a similar basis in the southeast is a favorable purchase, yet prospective buyers who are pinched for credit need not necessarily accumulate stocks for sharp or even material upturns in prices are not in sight. Values, it seems, will continue to fluctuate within a very narrow range and tend slightly downward.

ONE of the remarkable features in the trade in wheat millfeeds is the discount at which shorts are selling under bran. Within the past week bran has commanded a premium of about \$1 a ton over gray shorts or flour middlings, the first time in many years and one of the very few times in the history of the milling industry of the United States that such a condition has

existed in the price structure. Only four or five months ago gray shorts were selling at a premium of around \$20 a ton over bran on markets of the country, which differential is practically equal to the entire market value at the present time. Under normal demand and supply conditions and even during this season of the year when the narrowest margin prevails between bran and shorts, the differential is seldom less than \$4 a ton. Feed manufacturers who, during the period of the sharp differential, reground bran into "gray shorts" with the use of a low-grade flour, of course, cannot now engage in that very remunerative business; instead, the mills are turning out a considerably higher quality bran in running some of the flour particles into the offal. Dairy men and other

users of bran naturally benefit by this. The situation in millfeed reflects the general bearish feed situation created by the abundance of corn. Hog producers are substituting the coarse grain for brown and gray shorts, but dairy men, the principal buyers of bran, while substituting partially other protein feeds, continue to use bran on a liberal scale. Another factor contributing to the abnormal price relation is the technical "short" interest in bran; that is, market operators oversold on the offal and now find they are unable to obtain the actual feed to apply on their speculative contracts. But the over-sold condition is not serious and will not long be felt, for those who bought the bran on a speculative basis are not eager for the product, owing to the dull demand from dairy inter-

ests. So it is probable that bran will work down in price, while shorts are expected to remain firm. Bran can be bought around \$26 to \$27 a ton in Minneapolis and \$25 to \$26 in Kansas City for January shipment, with Chicago and St. Louis around \$29 to \$30 a ton. Brown shorts are as much as \$5 a ton under these figures and gray about \$1 a ton less.

EXPECTATIONS of a further decline in alfalfa hay are almost general in the forage market. Timothy and clover mixed will follow a declining trend in alfalfa. The bearishness is based on the recent emergency reduction in freight rates on alfalfa from the Pacific Northwest and Idaho by the Union Pacific and Oregon Short Lines to Missouri River points. Michi-

gan buyers of hay will benefit in a measure by the emergency reduction. On the rate of \$15 a ton from Idaho to Kansas City, the largest market, producers had been unable to move their hay at a profit and thousands of tons were thus withheld. But a heavy movement already is under way since the freight tariff was cut down to \$10 a ton. In the past month alfalfa declined about \$3 a ton to a top around \$24 a ton in Kansas City and around a top of \$28 in Chicago. Timothy in Chicago is bringing up to \$27 a ton and clover up to \$23. Demand for alfalfa and tame hay is extremely light, demoralization in the south being a serious price-depressing influence. Feeders generally will buy hay, sparingly so long as values are maintained about \$20 a ton.

Farm Interests at the National Capital

Various Subjects are Now Being Considered—By E. E. Reynolds

COOPERATIVE marketing, farm cost accounting, and farm efficiency were among the outstanding subjects discussed at the eleventh annual meeting of the American Farm Economics Association held in Washington during the week ending January 1, 1921.

In his address on "The Adjustment of the Farm Business to Declining Price Levels," H. C. Taylor, of the Office of Farm Management of the Department of Agriculture, quoted history showing that war is always followed by high prices, and then a disastrous slump. He said that in the main the sudden collapse in farm prices was due to under-consumption rather than over-production. In the present instance, however, the cost of living on the farms remains relatively high.

The economic and legal status of collective bargaining was discussed by C. Morrill, of the Bureau of Markets, who said that when the Sherman anti-trust measure was before congress back in 1890 the need of exempting farmers from the provisions of the bill was discussed and an amendment to that effect added to the bill. When the bill was passed, however, the amendment had disappeared. He argued that the Volstead collective bargaining bill, as it was passed in congress, does not permit the federation of farmers' cooperative associations under a central sales organization. The bill in effect seems to give additional jurisdiction to another agency of government to investigate and regulate cooperative marketing associations; but it does not take away anything from the Department of Justice in anti-trust law enforcement. As federations of marketing associations do not come under the Volstead bill they go back to the Sherman anti-trust law.

Mr. Morrill said he did not look upon the Volstead bill in its present form as accomplishing a great deal of what the people are looking for.

Ashur Hobson, of Columbia University, in discussing the fundamentals of cooperative marketing, said he believed that success in marketing cooperation will come through efficiency rather than elimination of private profits. Cooperation which does no more than eliminate private profits is on the high road to starvation. The success of farmers' cooperatives depends upon their ability to furnish a continuous supply of standard products.

The necessity of having alongside the marketing association an educational movement was emphasized by Charles A. Lyman, of the National Board of Farm Organizations. In regard to farm legislation, Mr. Lyman said, "It took a year to get the Volstead bill through congress. Months were required to get it out of the committee, then it came out in a form which

nullified its effective provisions, and it is rumored that it is due for a veto."

SOME interesting facts and figures on farm tenancy were given by Professor B. H. Hubbard, of Wisconsin University. Tenancy is much more prevalent in regions of high-priced farm lands than in sections where the prices of farm land are low. In Ohio there has been a decided decline in tenancy in twenty years, according to the 1920 census. In the North Atlantic states farm tenancy has decreased since 1910, while in Iowa it has increased slightly. It is evident, concludes Dr. Hubbard, that farm tenancy and ownership have reached a balance, with no prospect of a landed aristocracy.

"The Packer and the Farmer" was the subject of a discussion by Dr. W. Y. Durand, of the Federal Trade Commission. Dr. Durand wanted it distinctly understood, however, that what he had to say was his own personal views, and should not be taken as representing the views of the Federal Trade Commission.

"The big practical problem of the last thirty years and of today," concluded Dr. Durand, "is how to avoid the gluts and famines, the sharp, disastrous fluctuations of the live stock market place. That problem should be solved right, before the farmer takes on anything more."

"It does not seem likely that the nearest road to this solution lies through the farmers' cooperative packing plant. The mistakes of cooperative packing plants in the past need to be charted, and experiments designed to avoid past pitfalls need to be made, but the main heave of the farmer's energy should be applied squarely on the proposition of getting animals to the present markets in a steadier flow. Everybody will be a gainer by it, if it can be accomplished. I am against any concerted action with the object of curtailing production of live stock. Let us first try to learn what the supply is and where it is, and then see to it that its daily flow shall be steady as possible. The effect of such a policy should be to assure a steadier price throughout the year, so that one small producer who risks his work of a year or two or three, on a single market day, will have a fairer chance of coming out with a reasonable sum of money instead of taking the gamble he now must take."

"The coordination of farmers' live stock shipping associations, the forming of large cooperative commission houses in the markets where they are not already established, the creation of a special information service to organize the flow of stock—these are the principal outlines of this present ef-

fort. Possibly the cooperative acquisition of the stock yards should be favored, if there are contracts to assure that the packers will buy in the yards, and pay yardage on any animals they buy."

The farmers' emergency tariff bill is now being considered by the senate finance committee, of which Senator Boies Penrose, of Pennsylvania, is the chairman. Senator Penrose is opposed to the emergency tariff bill, saying he believes it to be hasty, ill-advised and savoring of class legislation. He thinks both tariff and revenue legislation should be postponed until the next session of congress. Sentiment of the business interests, which will be the first considered, is thoroughly hostile to any legislation which would limit foreign trade, according to Senator Penrose. The Federal Trade Commission has furnished the senate finance committee with information on world trade conditions, which it is claimed, presents the proposed legislation as ill-timed and impracticable. It is predicted on good authority that a combination of senators from the eastern manufacturing sections and the south will be able to defeat the emergency tariff bill, or if it passes the senate they will be strong enough to prevent a move to pass it over the President's veto. Exhaustive and time consuming hearings on the bill will delay its progress in committee, and Representative Green, of Iowa, who is interested in its enactment, says that if it is held up until March, or even for thirty days, he doubts whether it will do much good. "By that time the flood of foreign goods which the bill is designed to shut out will be pouring into our ports."

THE Sundry Civil Appropriation bill has been the source of much discussion in the house. One of the points of dispute was the Muscle Shoals nitrate plant project. The plant is already erected and equipped for the production of nitrates for military and fertilizer uses, at a cost of \$71,000,000. To operate it successfully will require the completion of the Wilson dam across the Tennessee river, on which \$17,000,000 has already been expended, and \$45,000,000 is the total estimated cost. The friends of the project are asking for \$10,000,000 to continue the work on the dam through the present year. All the farm organizations represented here are back of the bill, as a means of freeing the country from the Chilean-British nitrate monopoly, and assuring the farmers a supply of nitrate fertilizers at a low cost.

Hearings are being held before the agriculture committee of the house on the bills to end gambling in farm products. There are six such bills now be-

fore the house. Two plans for eliminating grain gambling are presented in these bills, one to tax the bucket shops out of existence, the other to deny them the use of the mails or other means of transmitting or receiving information. S. W. Tator, formerly of the Federal Trade Commission; C. H. Hyde, of Oklahoma; H. L. Middleton, of Iowa; William W. Eckard, of Illinois, and T. D. Hammett, members of the American Farm Bureau Federation Committee of Seventeen, have given testimony before the committee. The committee of seventeen, it is evident from the testimony, is not unreservedly in favor of these bills to prevent dealing in futures unless a system is developed to take the place of our present marketing machinery. It was stated that the farmers of the southwest are against future sales. It was also emphasized that information as to who is buying and who is selling should be made public, and that some law should be enacted providing that a man cannot sell grain unless he has the actual grain to sell.

On January 3, President Wilson sent a message to the senate, announcing his veto of the resolution reviving the War Finance Corporation activities. The senate immediately passed the resolution over the President's veto by a vote of fifty-three to five, and the following day the house passed the measure over the President's veto by a vote of two hundred and fifty to sixty-six, and it became a law. The War Finance Corporation will be revived at once, according to the officials, but it will be some time, possibly two months before it can begin making loans for export. While the corporation has a book balance with the treasury of \$375,000,000, the use of this money for loan purposes will require the issuance of treasury certificates of indebtedness.

Gray Silver, Washington representative of the American Farm Bureau Federation, said that some means must be provided which will give the farmers access to the great reservoir of credits. If the farmers could deposit such commodities as they produce in warehouses, taking a receipt as provided in the United States warehouse act, and use these warehouse receipts as a basis of debentures, this would bring about the desired result. If the farmers could go into the money market and buy credit with security on their crops it would relieve the local banks. There should be some plan worked out whereby these warehouse receipts could be gathered up under some such system as the Federal Farm Loan banks, and short-time debentures issued against them. These would be sold in the open market or rediscounted through the Federal Reserve banks.

Spreading Straw

WHILE many farmers realize the advantage of getting the straw produced on the farm back on the soil, yet all are not equipped to pass it through the stables because they do not keep enough live stock to utilize all of it in that way. So a good share of it may have to be spread as clean straw. Not very many are in the habit of letting the stacks rot down before spreading as was formerly the case, as this has been shown to be a wasteful practice.

When is the best time to spread the fresh straw? Usually this job is gauged by convenience with other farm work so we get it spread some time in the fall, winter or early spring. Our practice has been to make it a fall or winter job because the earlier we can get it out the better the results obtained.

I remember one year we hauled rather strawy manure and some fresh straw over a good portion of clay ground in one field along in February and March, this field having been in clover that year. It was broken for corn in March and April, no rains of any consequence have fallen on the straw before being turned under. Moderate rains followed plowing, but after the corn was planted and up several inches dry weather set in and since the layer of fresh straw and manure tended to destroy capillarity the corn wherever the straw was put suffered terribly from the dry weather. The plant food contained in both the straw and manure was not available, the straw shut off the moisture from the plants; and no good results were obtained at all that year.

This was not the first experience of the kind, but it was so forcible as to change our system of management somewhat in order to get the straw out before spring. The best plan has been to spread it as soon after threshing or clover hulling as possible. This is either in August or September, before corn husking, and during days of husking when the corn is too damp to husk well.

Straw spread any time up to the middle of January becomes pretty well beaten down and decays somewhat before plowing time. Occasionally we are forced by circumstances to spread straw and strawy manure after January and even up to April, but I have learned that it can be handled in a way to avoid any bad results for I believe that one should not withhold straw from the soil when good results may be obtained from its use by proper handling.

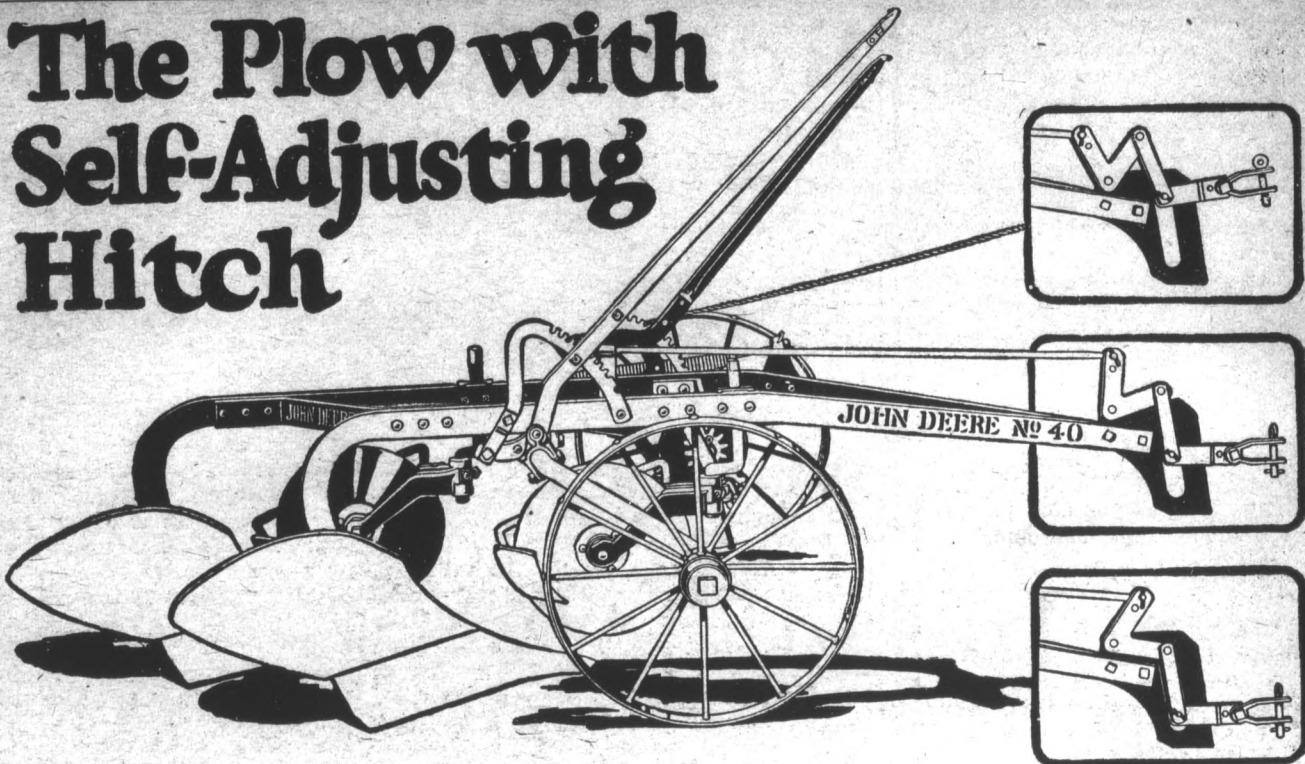
When late spreading is done it will be well to use a thin even application. This can be best accomplished by using a manure spreader that will spread straw, or a straw spreader. Spreading by hand is hard to do without leaving the straw bunchy. Dry bunches are difficult to plow under well.

A great advantage can be secured by discing the ground before plowing. This will help to mix the straw with the top soil so that there will be no likelihood of the straw forming a layer between the bottom of the furrow and the overturned soil. Mixing the straw with the soil by discing hastens the decomposition of the straw and makes it available as plant food in a shorter time.

Anyone can readily see the advantages gained through such practice whether the straw is spread in the spring or fall. The better our fertilizing material is mixed with the soil the better results we get from them. Our best farmers are using the disc harrow more and more to bring about better soil conditions for crops, and if they do not get their straw spread until late in winter they can partially make up for the delay by incorporating it with the top soil.

J. L. J.

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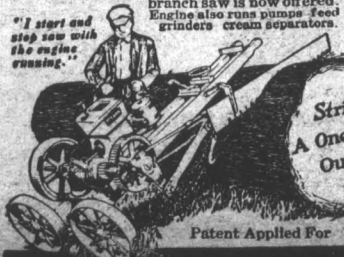
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Smooth Potatoes

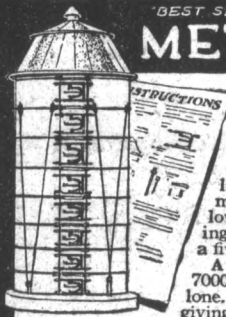
assured to every farmer if he will first rid his seed potatoes of infection by using:

FORMALDEHYDE The Farmer's Friend

The official standard seed cleanser. Gives increased yield of from 30% to 40%. Potato scab and black-leg once in the ground may persist for many years. U. S. Dep't of Agriculture recommends cleansing all seeds with Formaldehyde solution to prevent the spread of potato diseases. Also positively destroys smuts of grain and fungus growths. One pint of our Formaldehyde from your dealer treats 40 bushels of seed. New illustrated book sent free on request.

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Rotating Crops on Muck

Method of Handling is Outlined by Specialist in Muck Farming

I have one hundred and sixty acres of muck, subsoil is clay. I can raise sugar beets, and timothy hay successfully, but when it comes to rotating crops, our trouble begins. Oats and barley will always go down long before filling, then weeds come up. What can I do to cause oats and barley to stand up? Would you advise the sowing of alfalfa on muck when same is drained?
Tuscola Co. W. E. T.

WHEN it comes to rotating crops our trouble begins." In a very simple way the questioner sums up the difficulties which perplex the muck farmer. He can grow individual crops on muck but the matter of management of a muck farm is a question which he has by no means fully answered. Our office has outlined a system of muck farming in which we have considered ensilage, hay, sugar beets (or small quantities of intensive truck crops), and live stock as the elements to make up a sound system of muck farming. Notice that the grains are not included. The consensus of opinion of most men of long experience on muck is that small grains are risky and do not prove as profitable as other lines.

The reason for this lack of confidence in small grains and the factors concerned may be of interest to the muck farmer. Oats and barley do not "stand up." Another reason is that a hard frost in the late spring or early summer, which is quite common, will practically ruin a crop. Furthermore, the heavy growth of oats and barley has a tendency to smother out the seeding. (The latter difficulty is not so true for a seeding in rye). In passing, it may be well to note concerning frost injury, that our experiments last year have shown that the frost is not as injurious on crops properly fertilized as on crops growing on impoverished soil. At Brown City, it was shown very clearly to all who saw the Michigan Agricultural College demonstration plat on the farm of William Clarkson, that the plats which grew well and were properly fertilized with potash and phosphorus or manure escaped a frost completely while on the plats next to them without fertilizer the frost had a disastrous effect. This was particularly true with corn. We had no small grains, however, on this experiment.

Why do small grains lodge and fill poorly on muck? It has been established in other states and verified in this state, that the lack of minerals will result in these abnormalities. Muck soils which are not fertilized become deficient in phosphorus and potash sooner or later. This deficiency is manifested in a weak stem and poorly filled grain. That this fertility factor is not the only reason for lodging is quite evident when we recollect that on rich prairie soils lodging is quite a common trouble. Observation for several years has given us reason to believe that the lodging is not only due to lack of minerals to a great extent, but to an equally large extent it may be due to the improper handling of the soil. I will outline this point briefly. It must be taken into consideration however, that there are some varieties of grains which because of short straw and early maturity are better adapted to muck than others. For example, the Iowa No. 103, or so-called sixty-day oat, is an excellent variety for muck land because of its characteristics in this respect.

In the preparation of the muck for spring grains do not plow unless it is absolutely necessary; if you do plow, fall plow. Use the disk wherever possible if not too weedy. On old mucks

plow shallow. Before and after sowing muck should be rolled thoroughly. The reason for this may be briefly stated as follows: Muck soils are abundant in nitrogen; this nitrogen is made available by bacteria. If the soil is loose it is assumed that these bacteria are able to carry on their activities much better than when the soil is compact. Lodging is caused by an unbalanced growth which appears to be over-stimulation with nitrogen. In order to repress this nitrification the soil should be kept as compact as possible. Now, in addition to this, if the proper minerals are added the growth should be normal; that is, the plants should grow a normal stalk and fill normally without lodging. I am assuming that if the muck is shallow it has a clay subsoil and does not need potash, and that good liberal applications of acid phosphate, about four hundred pounds to the acre, is sufficient. However, in the proper rotation on deep muck, manure and phosphorus should be used, the manure to supply the potash and the bacteria necessary for inoculation which will keep the muck soil in ideal condition.

This matter of manure on muck deserves a more detailed discussion, which will be taken up at some other time, but it is sufficient to state here that at this time of high prices for potash, a good muck farmer will see to it that he has enough stock to make manure so as to have light dressings once in four years on every part of his farm. To obtain the full value of the manure it should be cared for so that no leaching is allowed. Five tons of manure to the acre, with two hundred and fifty pounds of acid phosphate should maintain the fertility of muck land of good quality. It must be kept in mind that manure is applied on muck for a totally different purpose than that on high land. It also holds true that we plow under crops on muck for entirely different reasons than on upland soil. We have an abundance of humus and an abundance of nitrogen, while uplands usually lack humus and nitrogen. Presuming that the manure is applied to the beet or the ensilage crops, there will be enough potash remaining to supply the grain; with the addition of two hundred and fifty pounds of acid phosphate this should tend to stiffen the straw and prevent lodging. The importance of rolling must not be overlooked—thorough rolling and firming of the soil is absolutely paramount in growing grain on muck.

Alfalfa can be grown successfully on muck. I will refer the reader to my reply to a letter in the Michigan Farmer a number of weeks ago, in which I discussed the matter of alfalfa on muck. Alfalfa can be grown on muck which is well drained. Experimentation has not been sufficient to recommend alfalfa but there is no question about sweet clover. The value of white sweet clover on muck is just becoming apparent. In our experiments and demonstrations we have had splendid results with it.

It is important to note in conclusion that fields of rye on muck in which the directions outlined have been followed,

have yielded well and have been normal in their stem and seed growth. Last year in Crosswell, Dr. H. H. Learmont grew rye on a large acreage in which a phosphorus, potash (no nitrogen) fertilizer was used. The fertilized area indicated almost twice the yield over the unfertilized strip. Varieties of oats and barley which are rapid in maturing and have a short straw are the types which should be used by the muck farmer.

Muck land in a high state of fertility will grow wheat. Keeping in view the opinions of the men of experience on muck that small grains on muck are not as profitable as other lines of general farming, for example, hay or pasture, it is true that many farmers have a muck patch on which they contemplate growing rye, oats or barley. To these farmers, I would outline the following in conclusion:

1. Keep the muck as firm as possible.
2. Fertilize with a potash, phosphoric acid fertilizer (no nitrogen).
3. Seed grain, at least, one-third heavier than the usual amount on the upland.
4. Use varieties adapted to muck soil.

EZRA LEVIN,

Department of Soils, M. A. C.

FOLLOWING POTATOES WITH POTATOES.

Owing to grasshoppers and the dry weather conditions of past seasons and consequent lack of seedings, I shall be forced to plant potatoes in the same field where I had potatoes last year. This field was a sod (clover and June grass) manured and plowed last spring. I will have enough manure to nearly cover this field again this spring. This is a sandy soil. Do you think it will pay me to use commercial fertilizer?
Kalkaska Co. R. H.

I am of the opinion that under your conditions it would be advisable for you to use a fertilizer containing at least two per cent nitrogen, four per cent would be better. This is especially true of the portion where you do not use manure. You would also want at least eight per cent phosphoric acid and possibly four per cent of potash.

In case you cannot buy a fertilizer containing these percentages locally, perhaps you can secure the nitrogen in the form of nitrate of soda or sulphate of ammonia and the phosphoric acid in the form of acid phosphate and mix the two yourself. I do not think you would find it profitable to use a ten per cent potash as that is supplying a very large amount of very expensive plant food. If you have access to wood ashes, especially the unleached form, they will be a very good source of potash.

In applying a fertilizer be sure to have it thoroughly mixed with the moist soil. One way of doing this is to use a grain drill with a fertilizer attachment, making the application before planting. If you have access to a potato planter which has a fertilizer attachment it would be even better to apply the fertilizer with the planter. If you are obliged to sow the fertilizer by hand be sure to do it early in the preparation of the soil so that it can be harrowed thoroughly into the soil.
C. W. W.

WIREWORMS ON WHEAT.

Will wheat or rye, following corn on low meadow land infested with wireworms, like the growing corn, suffer from the depredations of this pest?
St. Joseph Co. S. K. T.

Wireworms will not affect winter wheat or rye as they do spring crops, owing to the fact that the wireworms do not work in the fall of the year.

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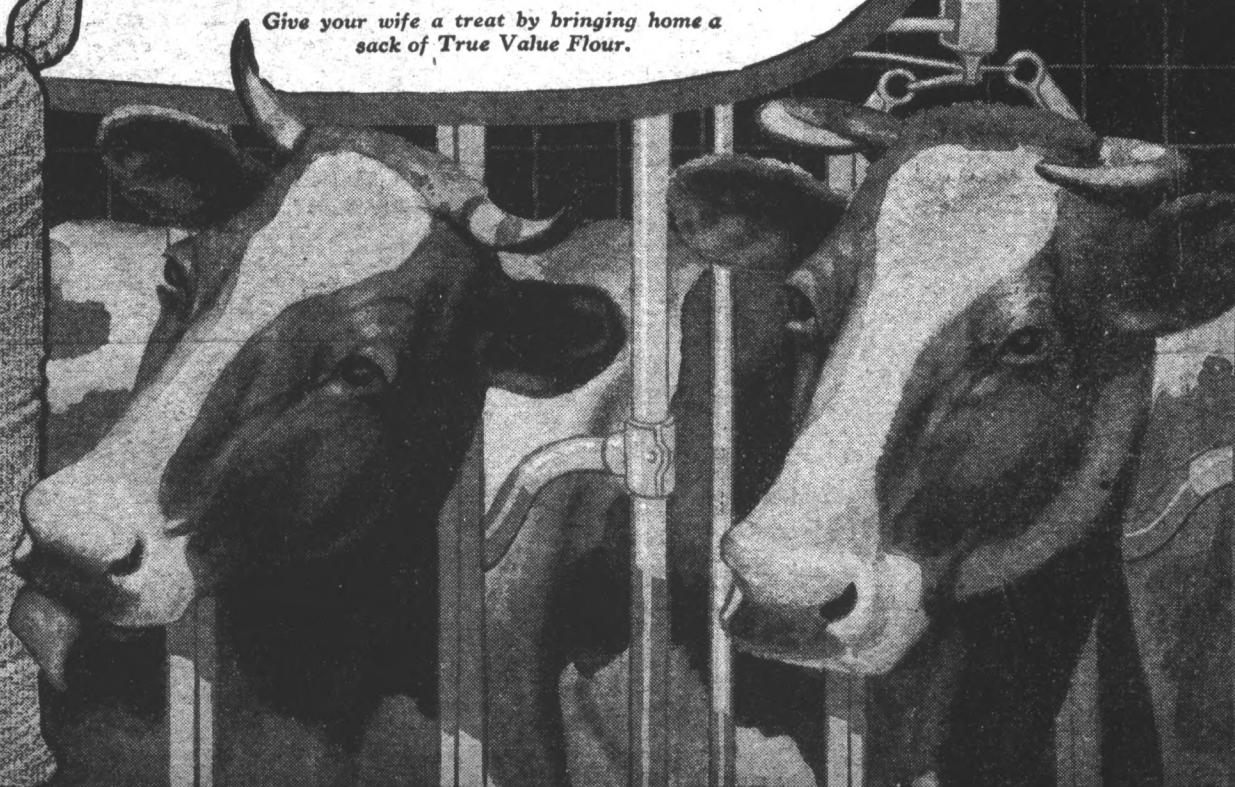
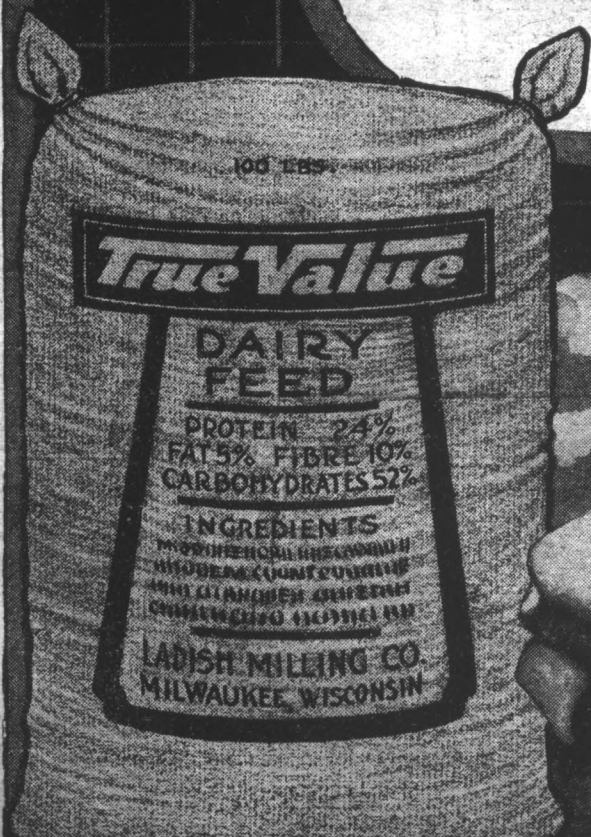
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Dept. A-19
TOLEDO, OHIO

Upper Peninsula News

By L. A. Chase

COUNTY Agricultural Agent, C. E. Gunderson, of Gogebic county, reports the following accomplishments for the agriculture of Gogebic county during the year 1920: (1) the organization of the Gogebic County Farm Bureau of three hundred farmers, and the establishment of locals in Bessemer, Wakefield, Erwin and Ironwood townships; (2) the employment of a county veterinarian by Gogebic county for the eradication of bovine tuberculosis; (3) the organization of the Gogebic County Cow-testing Association of thirty-three members; (4) the organization and development of a winning live stock judging team; (5) the placing of ten pure-bred Holstein and Guernsey sires on farms of the county; (6) the placing of eighteen pure-bred cows; (7) the placing of seventeen high-grade cows; (8) the organization of the Junior Guernsey Breeders' Association; (9) the securing of club leaders for thirty boys' and girls' garden clubs with a membership of twelve hundred; (10) the holding of two big picnics of farmers and girls' and boys' clubs jointly; (11) the shipment and distribution of three carloads of dynamite for land-clearing at a saving of \$4,200, also the shipment of lime and acid phosphate; (12) the establishment of eight grain-growing demonstration plots with the use of limestone and acid phosphate; (13) the shipment and distribution in the county of two carloads of cattle and one carload of Green Mountain seed potatoes; (14) eight stump-blasting and ditch-digging demonstrations with the aid of a Dupont dynamite expert.

Mr. Gunderson is justly proud of his boys' record as stock-judgers, first at Chatham, where they won first, then at the state fair at Detroit, then at Atlanta, whither Carl Johnson was sent at the charge of the county board of supervisors, and finally at Chicago, where Michigan lost to Georgia by the difference between 998 and 965 points out of a possible 1,350. It is felt that not only has Gogebic county gained honor by their achievement, but that the boys will have derived permanent benefit from their experience.

Branch Farm Bureau Office.

The Michigan State Farm Bureau Executive Committee have taken favorable action in regard to the establishment of a branch of the State Farm Bureau in the upper peninsula. Secretary C. A. Bingham, A. J. Hankins, of the Lansing office, and Robert Blemhuber, of Marquette, have taken the subject under consideration. It seems to be understood that the office will be located in Marquette or Escanaba. Either place seems well located for this purpose.

It is proposed to keep open the highway from Escanaba to Rapid River by the use of a snowplow placed ahead of two high-powered auto trucks—a method which trial has proven to be satisfactory, it is reported. Marquette, having encountered great difficulty in hiring enough horses to operate its street snowplows, has pretty definitely decided to have resort to a caterpillar tractor for the purpose. As yet, however, snow here is light, and while there is sleighing, the roads are still sufficiently open for automobile traffic as late as the first week of January.

The Upper Peninsula Development Bureau is pushing the proposal to establish a pea-canning factory in this district, and there is reason to believe that the first such establishment will be opened in Delta county, if present plans fail not. Pea-growing in this section of the state is an undoubted possibility.

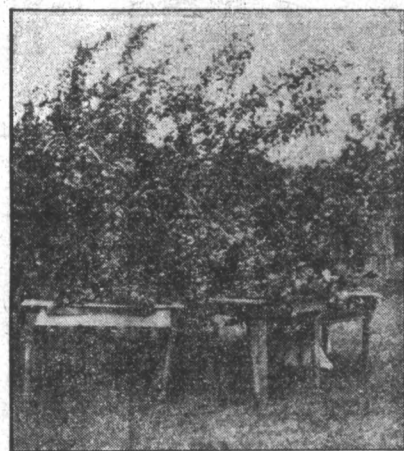
Finnish farmers north of Ironwood are moving to establish a cooperative

saw-mill, for which \$10,000 of capital is said by the "Globe" already to have been pledged, with \$25,000 the ultimate goal. A committee has been named to proceed with the purchase of the necessary machinery, it is announced.

The Cloverland Dairyman's Association, of which State Senator F. H. Vandenberg is president, has published a neat little booklet entitled, "Better Bulls for Cloverland," which succinctly sets forth the reasons why farmers should use only pure-bred bulls and advocates cooperative ownership, where individual ownership is impracticable. These advantages are shown statistically in such a way as to appeal to the most conservative.

Importing Foodstuffs.

The extent to which foodstuffs for man and beast are now imported into the upper peninsula may be inferred from figures furnished me by the Duluth-South Shore & Atlantic Railroad, relating to Marquette only. The Marquette freight office of this railroad received from December, 1919, to December, 1920, thirty-five carloads of apples, 160 carloads of hay, 222 carloads of meat, fifty-seven carloads of oats, 155 carloads of vegetables, one carload



Cloverland Trees Produce More than the Branches will Support.

of potatoes, one carload of butter. This information may be expected to be of interest to lower state farmers who have such commodities to sell.

In the pioneer period shipments were received into the copper country by way of such Lake Superior ports as Copper Harbor, Eagle Harbor and Eagle River. Portage Lake nearly cuts the Keweenaw Peninsula, which constitutes most of the so-called copper country, nearly in two, and has its drainage into Lake Superior at its southeastern end through Portage River. In its natural state, Portage River had only some four feet of water over the bar, but in 1860 the Portage Entry Canal was opened, which gave access to Portage Lake to vessels of deeper draught. This was of great commercial importance since by that time the center of the copper mining industry was shifting from the northeastern end of Keweenaw Peninsula to the vicinity of Portage Lake. In 1873, a second canal was opened into Portage Lake, this time from its northwestern end direct into Lake Superior, thus affording a through waterway across the peninsula, which has since been deepened so that ships of the maximum draught that navigate the Great Lakes can pass through this "Keeweenaw Waterway." Navigation by this route was open, this year, for 222 days, reports the "Gazette" of Houghton. The "Entry" canal, just referred to, is crooked, hindering the passage of the longest vessels, and congress has authorized its straightening by making a cut at Prince's Point, which, it is expected, will be undertaken, next season, title to the right-of-way having lately been secured.

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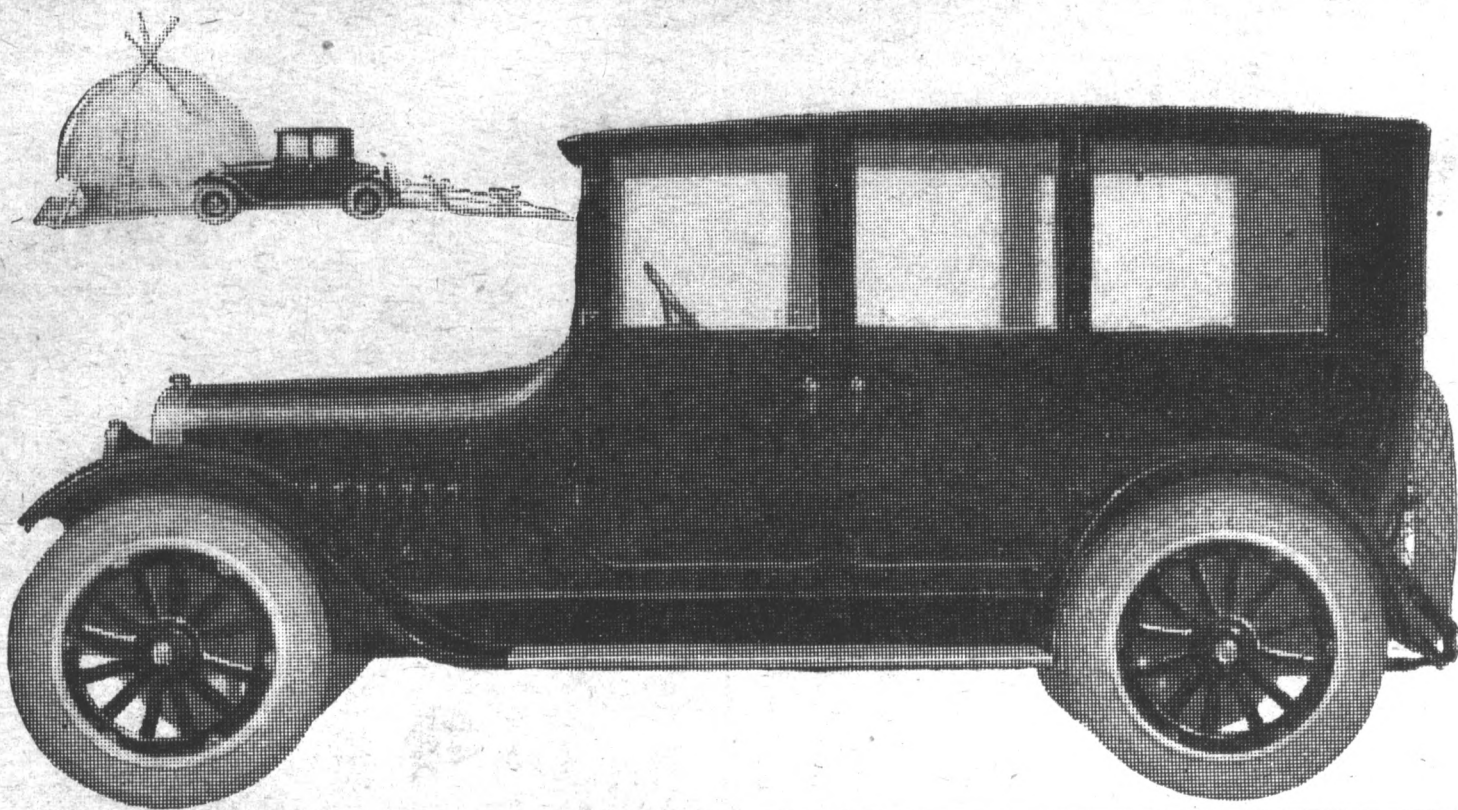
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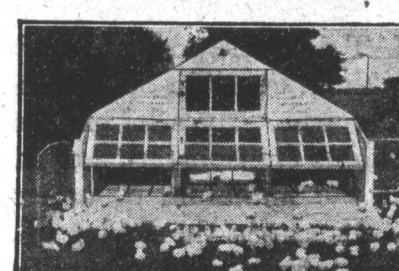
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Additional Poultry Ads. on Page 87



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Brooding by Hundreds

By R. G. Kirby

THE invention of the colony stove has given the careful poultryman a chance to develop large flocks of chicks with a minimum of work and worry. A brooder which will protect two hundred chicks will do the work of fifteen or twenty hens. For the hens with chicks the poultryman must have many brood coops, drinking dishes and feed hoppers. For the colony flock, one colony house is enough. One water fountain and one feed hopper will serve them well. One sour milk fountain of large capacity will be easier to keep clean than many small sour milk dishes.

At night the closing of one door locks the chicks safely for the night. It takes time to close fifteen or twenty brood coops and the entrances must be blocked to keep out rats and weasels. During storms the brood coops will be in more danger of being blown over. In cold snowy weather such as we have in the early spring it is difficult for small chicks to come out from under the hen without being chilled. The stove brooder will furnish the chicks with a dry floor. Green sods can be cut and placed in the colony house. The young chicks can come out and scratch and feed with plenty of protection from the cold winds. We find that early hatched chicks are much easier to raise with coal brooders than with hens, because of the en-

vironment for growth that can be furnished around the brooder. Later in the season there is, of course, nothing as good as the old hen for properly brooding chicks. But even then the colony brooders can be used with good success.

As many as one thousand chicks can be brooded with one coal-burning colony hover. We find that a brooder protecting about two hundred chicks is the most satisfactory. Then they can be allowed to remain in the house until reaching broiler age without being overcrowded. When the broilers are culled out and the prospective breeding cockerels placed on another range there is still room in the colony house for the remaining pullets until they move to laying quarters. Our colony houses have all been eight feet deep and ten feet wide. But next year we shall build some a little larger for the use of colony brooder stoves.

Start the fire one day before removing the chicks from the incubator as this helps to take the dampness out of the colony house and places the stove in running order. Be sure that there are no leaks where the stove pipe passes through the roof. Visit the tinner and obtain a tin protector to use where the pipe passes out. Also use a protector on top of the pipe. This will keep water out of the stove when the heavy rains come. If water trickles down the pipe into the stove or upon it, there is some injury to the stove and the fire may be put out in bad weather when it is the most needed.

A long strip of quarter-inch mesh wire about five inches high is useful to place around the edge of the deflector until the chicks learn the many chicks can be raised with a very small mortality rate if the breeding three feet from the deflector edge. A stock is good and the chicks are given fine straw litter on the floor will cause

the birds to scratch and also hide their feet and help to prevent toe-picking. A half-inch of sand under the litter makes a nice floor but it is not absolutely necessary if sand is difficult to obtain. But never use garden loam under a stove brooder as it soon becomes very dry and turns to dust and the scratching of the chicks will keep the air very unclean and unhealthy.

We find that it pays to empty the ashes each morning and turn on the draughts so that the fire will burn briskly. This keeps it from dying down. Again at night we shake it down and leave the draughts on for a few minutes until sure that the fire is in good condition to last throughout the night. Just before retiring for the night, I make the rounds of the colony houses with a flashlight to see that all the stoves are in safe condition to leave.

Never take a lighted lantern into the colony house at night or it may cause the chicks to scatter from the brooder. Then it takes work to get them back and some may be missed and become chilled by remaining in the far corners of the house away from the stove. A flashlight may be snapped on and off very quickly, enabling the poultryman to make observations without frightening the flock.

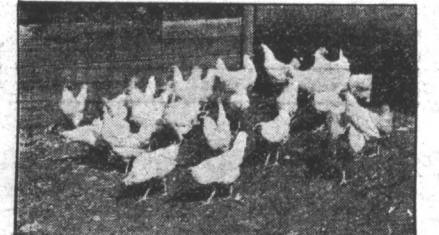
A pail of coal in each colony house saves time in caring for the brooder stoves. Empty candy pails are useful for this purpose. The middle colony house can be equipped with a small coal bin to act as a reservoir to supply all the houses.

Our chicks like the ashes from coal-burning brooder stoves. The ashes seem to contain bits of mineral matter that the chicks crave. I have seen husky chicks leave their scratch grain to swarm on the cool ash pan and pick up bits of ash. The stoves are very safe if care is taken in emptying the ashes and none of the wooden roof of a house comes in contact with the stove pipe. The stove pipes do not become very hot except when the fires are built. After the hard coal settles down to burning there is plenty of heat radiated under the hover but the galvanized pipe leading to the roof will be only barely warm.

Last year we found the commercial chick growing mash useful and profitable in raising our chicks under colony hovers. The hoppers filled with the mash insured every chick a fair chance to obtain the elements needed for growth. A good dry mash seems to reduce the dangers from bowel trouble.

It pays to spend a few minutes each day in observing the chicks around the brooder. Chicks that show signs of pasting up can often be quickly cured by giving each afflicted chick a drop of castor oil from a medicine dropper. Weak chicks that hug the stove and do not grow are seldom profitable. The other chicks will do better if the weaklings are removed, as chicks lacking in vigor are sources of disease.

Substantial stove brooders are economical as they are well made and should last an indefinite time if given good care after brooding season. We take down our brooders as soon as they are not needed. Then all metal parts are wiped with an oiled rag to prevent rusting and the brooding equipment is stored in a dry room. When such brooders can be used as much as ten years and more, the cost per chick per year for the use of the equipment is almost negligible. Feed and fuel then represents the cost of production aside from labor, and it is surprising how



Exercise Stimulates Laying.

PROVISIONS NEAR ROCK BOTTOM.

PROVISION prices appear to have discounted most of the unfavorable business and industrial news. Stocks on hand are below the average for the season and with fresh pork consumption increased by the lower prices, supplies are not expected to become burdensome. Financial conditions abroad are against a big export trade although the export movement based on sales during the fall months continues at the rate of 25,000,000 pounds of hog products a week, which is about an average for the last twenty-five years, but larger than during the years immediately preceding the outbreak of the war.

SHEEP MARKET OUTLOOK.

SHEEP markets have recently absorbed a slightly increased supply, although the price has weakened. The wool market and the big stock of frozen lamb remains as a heavy weight and seem likely to continue throughout the winter. Low prices for other meats also are a burden since dressed hogs can be bought for eighteen cents a pound, Chicago basis, and prime native steers at twenty-two to twenty-four cents, while choice lamb carcasses sell for twenty-five to twenty-six cents a pound. Feeders have lost enthusiasm for buying their lambs and that division of the market is dull, with a very light outbound movement.

Census returns from fifteen states show a sheep population of 8,130,118 head compared with 8,631,233 head in 1910, when adjustment is made for the difference in the time of the year at which the two censuses were taken. Idaho, Washington and Oregon, the only range states included, show increases but all the rest of the states reported on, including Ohio, show decreases. The net decline in the fifteen states is slightly less than six per cent.

HOG PRICES WOBBLE.

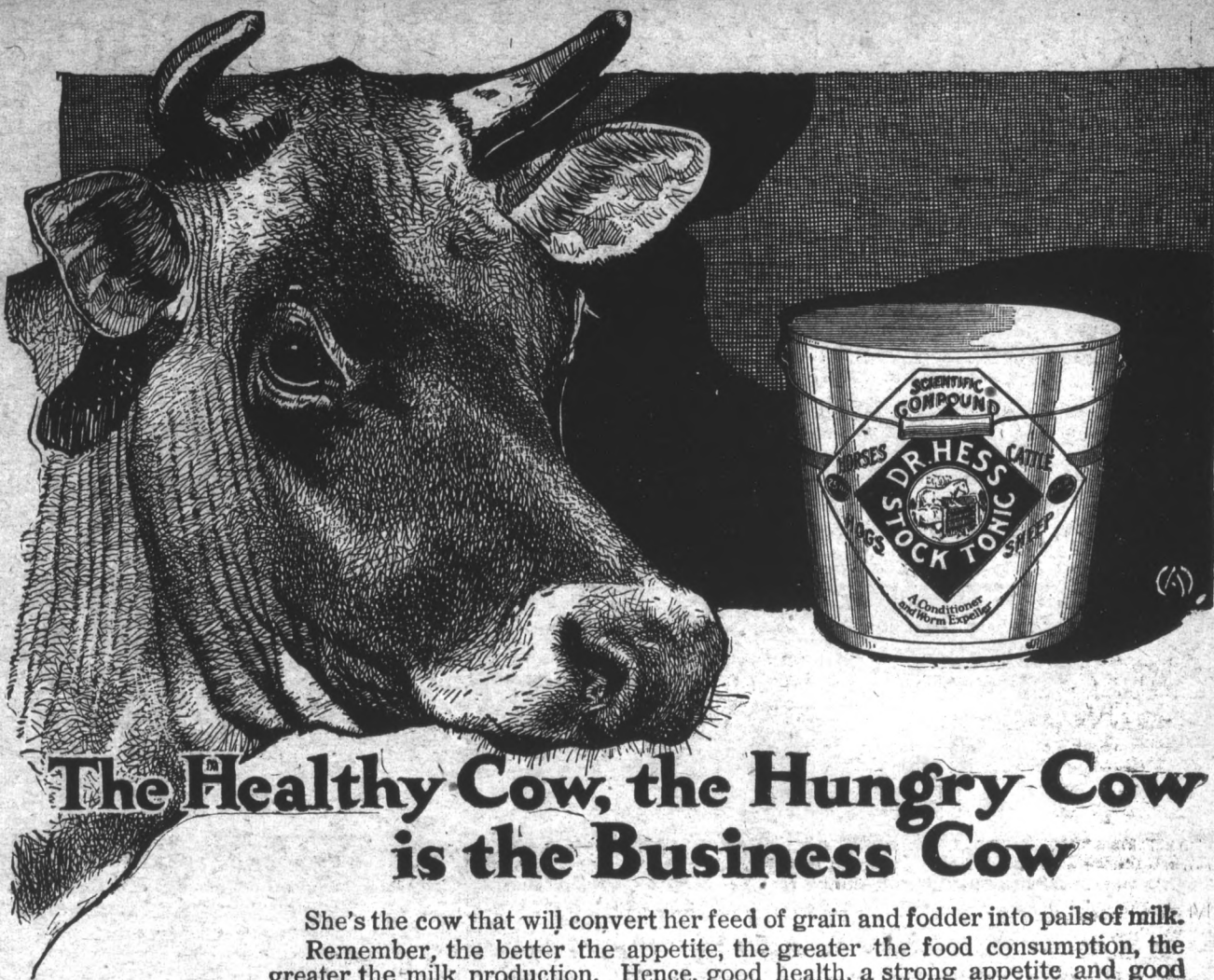
THE recent bulge in the hog market was too good to last. Supply has expanded, especially after the opening day of the week, and the average at Chicago is again skirting the \$9 mark. Eastern markets were bare for a few days during which shipping orders at Chicago and St. Louis were voluminous and these were responsible for the temporary improvement as the big packers, though talking hopefully, are keeping down drove costs to the minimum.

Hogs and corn prices will show a profit in the converting process so that average weights continue to run heavy for this season of the year and there is a sharp premium upon the light weights. Although current prices show a profit in hog feeding, it does not signify production should be expanded.

The market gives promise of showing alternate price advances and declines with resulting contraction and expansion of receipts, during the next few weeks, without getting far up or down. Around \$9 the declines strike bottom as the present rate of consumption of fresh pork and current prices for cured hog products, will support that figure.

SOUTH DAKOTA FARMERS AND BANKERS GET TOGETHER.

South Dakota is holding a series of farmer-banker conferences throughout the state. County farm bureaus are selecting representatives to meet with the bankers. Some of the subjects being discussed are the wool situation, grain and live stock, and finance. These are similar to the series of conferences held recently in Michigan by the Michigan Bankers' Association at all of which the State Farm Bureau had representation.



The Healthy Cow, the Hungry Cow is the Business Cow

She's the cow that will convert her feed of grain and fodder into pails of milk.

Remember, the better the appetite, the greater the food consumption, the greater the milk production. Hence, good health, a strong appetite and good digestion are the absolute essentials of a big milker.

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It contains Nux Vomica, that greatest of all nerve tonics. It whets the appetite, brightens the eye, invigorates the system. It contains Quassia, that bitter Stomachic tonic that produces appetite. It contains Iron that helps to replenish rich red blood, so essential to a cow in milk.

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Good alike for cattle, horses, hogs and sheep. It keeps animals healthy, the whole herd thrifty. It expels worms. Always condition your cows for calving with a course of Dr. Hess Stock Tonic before freshing.

Dr. Hess Stock Tonic is compounded strictly on scientific lines. You buy it according to the size of your herd. Tell your dealer how many cows you have. He has a package to suit. We guarantee good results in the milk pail.

25 lb. Pail, \$2.50

100 lb. Drum, \$8.50

Except in the far West, South and Canada. Smaller packages in proportion.

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The famous WOLVERINE which outyielded every other variety in a four-year test is one Isbell Type. Many yields have been over ninety bushels per acre. It grows vigorously — matures early. Isbell's own-grown, certified, pedigreed stock offers wonderful opportunities to farmers. Isbell's College Success, Johnson, Worthy, Alexander and Sensation Oats provide farmers everywhere with the best varieties for their special needs.

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AN EXPERIMENT THAT DID NOT PAY.

THE winter of 1919-20 I received the usual number of nursery catalogs. Among the number was one which especially attracted my attention. It was a gorgeous creation of red, green and gold with pictures which would tempt a man to set trees even against his better judgment. I was used to such things but I fell for one thing, after all. Among the pictures was a number illustrating apple and pear trees loaded with luscious fruit and—wonderful to relate—the trees had been set for only one year. According to the catalog, the trees had been raised to bearing age with special care and all that was needed was to set them in the spring and gather a fine crop the same year. Well, I bit; my wife says that I bite on every new thing which comes along; however that may be, I must confess that the bearing age proposition looked good to me.

I ordered twenty-five trees, ten Wealthies, ten Winesaps and five Northern Spies. The cost was \$1.25 per tree and the trees were to be ten feet tall and caliper one and a half inches. When the trees came they had been cut back so there was no way of telling their original height, but there was not one over seven feet high and not one would caliper an inch and some very much less than an inch. A few of them were of fair quality but the majority were either one shoot with a few sickly branches near the top, or else they were crooked, dwarfed, measly looking runts with very poor tops.

I soaked the roots for an hour in luke-warm water and then heeled in the trees in moist earth. I set them the next day, taking most particular pains to get the earth firmly packed around the roots. I sifted the earth with my fingers and used my fingers to tuck the dirt in among the fine roots. I was more careful than usual with these trees.

About the same time I purchased of a local nursery fifty, two-year, apple trees and set them in the same ground but with less care.

Of the bearing age trees, ten died in spite of the fact that I watered them frequently and hoed them twice a week besides keeping the cultivator going between the rows. One tree had five blossoms on but they dried up. The others did not blossom at all and made only an inch or two of growth on new shoots. I have grave doubts whether the fifteen that lived will ever amount to anything as they are scrubs. I ought to pull them and throw them away, but I just can't get up the courage.

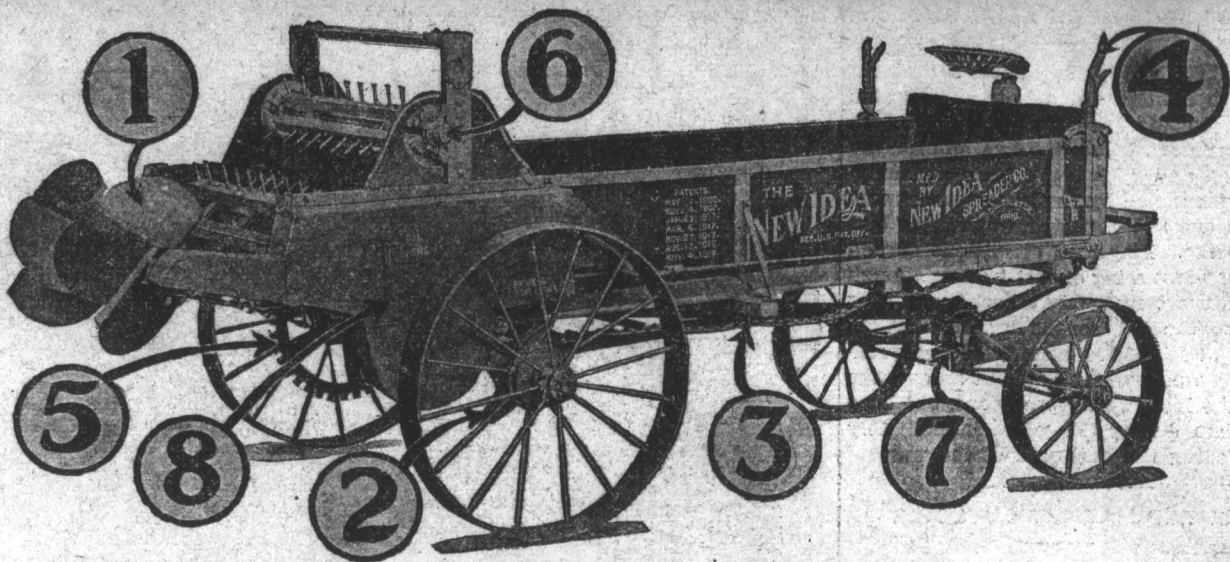
Of the fifty others, not one died and every one made a satisfactory growth and went into the winter in fine shape. I shall have no difficulty in shaping them into fine trees. As far as bearing is concerned, I would wager on the two-year-olds to come into profitable bearing sooner than the so-called bearing-age trees.

I have set hundreds of trees; my usual percentage of loss is a little less than three per cent. The bearing age percentage of loss was forty per cent. Draw your own conclusions.—L. B. R.

FARM ORGANIZATIONS GROW.

THE Ohio Farm Bureau Federation announces that its total membership is 46,258. Ninety-five farmers are soliciting in conjunction with the other farmers in the localities where the membership campaigns are being carried on.

Oregon is organizing a State Farm Bureau. A series of county meetings are being held throughout the state and ratification of the action of a central agricultural organization whose decision to form a State Farm Bureau has been received at every meeting show favor.



NEW IDEA and NISCO SPREADERS

- ① Patented Steel Distributor. No two blades hit manure at the same time. Gives perfect distribution.
- ② Four point direct-from-axle feed. No jarring motion or strained parts. No cams or eccentric running when driving to field.
- ③ Sprocket chain conveyor running over solid bottom. Improved construction. Saves much fertility.
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- ⑤ Direct chain drive means greater simplicity and durability. No gears to break or freeze.
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- ⑦ No neck weight on horses and no straining of bed. Built like a strong farm wagon with solid axle.
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YOU will never be really satisfied with manure spreading results—you will never get fullest value from manure and highest production from soil—until you use these two machines.

In the end, you will get either a New Idea or Nisco Spreader, as more than one hundred thousand other practical farmers have done.

Another make, priced lower, may tempt you—ONCE! Not, however, if you decide to obtain the full facts before you buy. Just fifteen minutes spent going over one of these extra strong, carefully built spreaders, will bring conviction.

If you want "the best," insist on a New Idea or Nisco—the original low-down, wide-spreading spreader. Built to spread manure better, more scientifically, to last longer and haul easier; to give you the utmost in spreader satisfaction that

your money can buy.

There's a dealer near you. The coupon will bring you his name.

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A big capacity straw spreading attachment gives you double use and double spreading profits from one machine. Shreds the straw fine and spreads it evenly, 8 to 10 feet wide. One man drives and operates it. Quickly attached or taken down. Simple, light and compact, it occupies little space when not in use. Your dealer will show you, or use the coupon.

NEWIDEA
The Original Wide Spreading Spreader

"NEW IDEA" and "NISCO"—two trade-marks representing spreaders that are identical in quality, in principal, in design and in mechanism, except for some minor differences in running gear which adapt them to varying field conditions in different parts of the country.

NISCO
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Our Gold Seal Guarantee absolutely protects you against breakage or defects.

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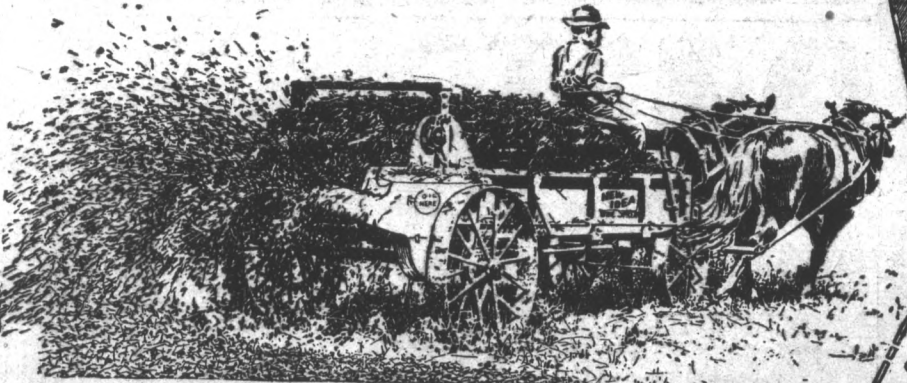
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Please send me, with obligation, free copy of your book, "Feeding the Farm."
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Where "Lakewood's Peerless Layers"

are bred for continuous vigor, long laying period, long cycle, late to molt. After many years of trap-nesting we have official records from 200 to 310 eggs in one year. Write for Catalogue.

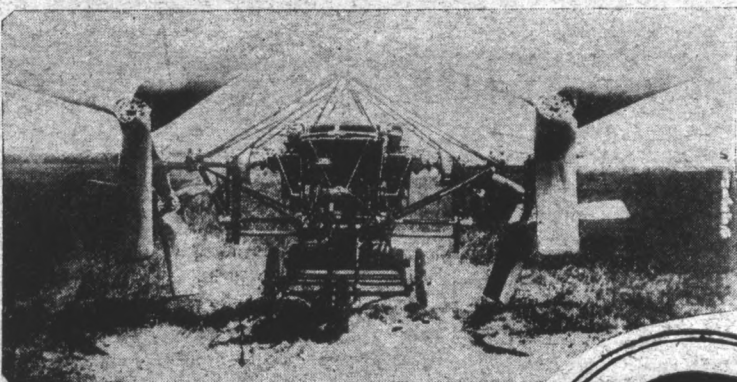
LEGHORNS ROCKS REDS WYANDOTTES
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WORLD EVENTS IN PICTURES



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Removing the famous Plymouth Rock to a new foundation.

This flying-machine may revolutionize aviation. The four propellers will lift the machine vertically from the ground, hold it still in the air, or move it in any direction.



A newly adopted sub-machine gun which is to be used by New York's automobile squads in their efforts to clear the city of bandits and criminals. The gun is extremely powerful, although only twenty-two inches long.



Henry C. Wallace, farm paper editor and publisher, is reported to be President-elect Harding's choice for Secretary of Agriculture.



From the center of this tree, located near Bern, Switzerland, flows a continuous stream of sweet, cool water of sufficient size to meet the needs of a large farm.

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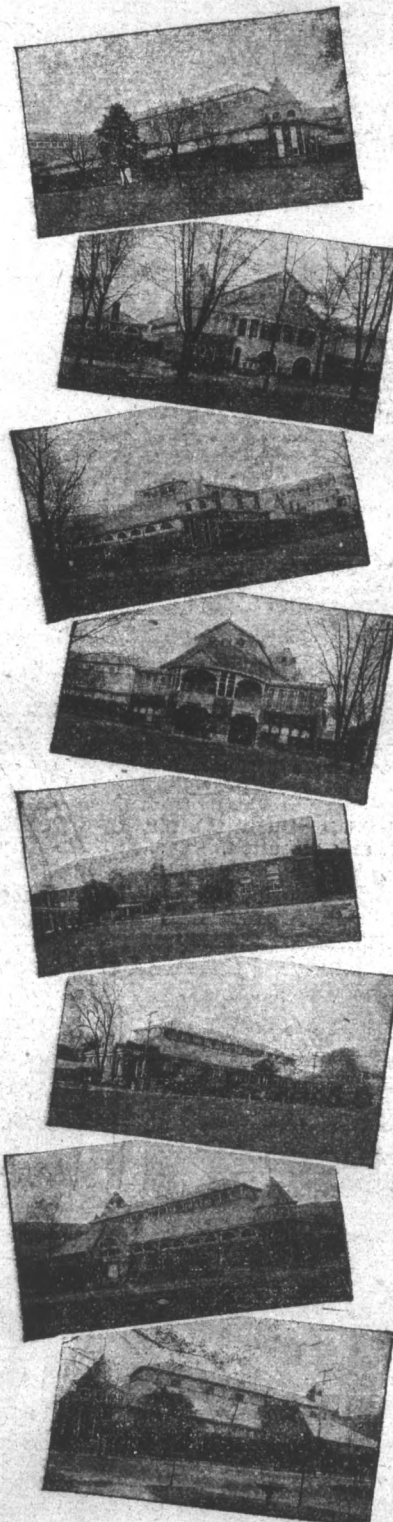
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A College Course in Tractor Farming Compressed into Four Days

Few men can picture, even in their own minds, the tremendous growth of power farming. Rapidly it is changing many of the established laws and methods of agriculture. Certainly today it is the foremost of all great opportunities confronting the farmer in his work. You will get real cash-value information out of these lectures, speeches and exhibits. The talks will be delivered in a special lecture hall and the program also includes daily discussions, mass meetings, etc. There will be moving pictures, band concerts and similar entertainments of a lighter kind, and your ticket of admission covers it all free. Everyone who attends will have a good time and a profitable one.

National figures like Pres.-Elect Harding, Sec. of Agr. Meredith, J. R. Howard, Pres. Am. Farm Bureau Fed., Joseph Hirsch, Chairman Agr. Commission Am. Bankers Assoc., and others have been invited to speak. The American Societies of Automotive Engineers and Agricultural Engineers and a number of the foremost Agricultural Colleges will have educational exhibits. And don't forget that all of this is in addition to the biggest display of tractors and tractor implements that has ever been gathered.

Here Is The Program

- Feb. 8—Soil Conservation, F. I. Mann, Gilman, Ill.
Adapting the Farm to Power, Raymond Olney, Editor Power Farming.
Determining Type and Size of Tractor to Buy, I. W. Dickerson, Agr. Eng. and Ed., Charles City, Ia.
- Feb. 9—The Trend of Tractor Design, J. B. Davidson, Iowa State College.
Ignition Troubles, O. W. Sjogren, Neb. Coll. of Agr.
Tractor Hitches, Daniel Scoates, Tex. A. & M. Coll.
Lessons from a Tractor Survey, G. W. McCuen, Ohio State University.
- Feb. 10—Lessons from Nebraska Tractor Tests, G. K. Shedd, Neb. Coll. of Agr.
The Tractor and Belt Power, Wm. Aitkenhead, Agr. Coll. Purdue Univ.
What Is Tractor Service? J. B. Davidson, Ia. St. College.
Community Purchase of Tractors, R. U. Blasingame, Penn. State Coll.
- Feb. 11—Tractor Tools, H. H. Musselman, Mich. Coll. of Agriculture.
Laying Off Fields for Plowing, F. W. Duffee, Wis. Coll. of Agr.
Tractor in Winter, R. U. Blasingame, Penn. State College.
Housing the Tractor, F. W. Ives, Ohio State Univ.
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THIS is your show. It has been planned in the interest of all practical farmers. It has the backing of the Department of Agriculture and of all agricultural schools and authorities. The program arranged is the equivalent of a college course in tractor farming. You will gain a wealth of new ideas that can at once be turned to real profit.

Write today for special free tickets of admission. Ask for our booklet explaining the entire program. A hundred thousand farmers will be here to meet the power farming experts of the country.

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Gentlemen:—

Please send me your booklet regarding The Sixth Annual Tractor Show. Also inclose free tickets for myself and.....others of my family.

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THE VOICE OF THE PACK

By EDISON MARSHALL

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CHAPTER V.

DAN FAILING had been studying nature on the high ridges; and he went home by a back trail that led to old Bald Mountain. Many a man of longer residence in the mountains wouldn't have cared to strike off through the thickets with no guide except his own sense of direction. The ridges are too many, and they look too much alike. It is very easy to walk in a great circle—because one leg tires before the other—with no hope whatever of anything except the spirit ever rising above the barrier of the pines. But Dan always knew exactly where he was. It was part of his inheritance from his frontiersmen ancestors, and it freed his wings in the hills.

The trail was just a narrow serpent in the brush; and it had not been made by gangs of laborers, working with shovels and picks. Possibly half a dozen white men, in all, had ever walked along it. It was just the path of the wild creatures, worn down by hoof and paw and cushion since the young days of the world.

It was covered like a sheep lane, with little slit triangles in the yellow dirt. Some of them were hardly larger than the print of a man's thumb, and they went all the way up to a great imprint that Dan could scarcely cover with his open hand. All manner of deer, from seasonal fawns with spotted coats and wide, startled eyes, to the great bull elk, monarch of the forest, had passed that way before him. Once he found the traces of an old kill, where a cougar had dined and from which the buzzards had but newly departed. And once he saw where Woolf had left his challenge in the bark of a great pine.

This is a very common thing for Woolf to do—to go about leaving challenges as if he were the most warlike creature in the world. In reality, he never fights until he is driven to it, and then his big, furry arms turn out to be steel compressors of the first order; he is patient and good-natured and ordinarily all he wants to do is sleep in the leaves and grunt and soliloquize and hunt berries. But woe to the man or beast who meets him in a fough-and-tumble fight. Unlike his great cousin the Grizzly, that American Adamzad that not only walks like a man but kills cattle like a butcher, he almost never eats meat. No one ever pays any attention to his challenges either, and likely he never thought anyone would. They seemed to be the result of an inherited tendency with him, just as much as to

grow drowsy in winter, or to scratch fleas from his furry hide.

He sees a tree that suits his fancy and immediately stands on his hind legs beside it. Then he scratches the bark, just as high up as he can reach. The idea seemed to be that if any other bear should journey along that way, should find that he couldn't reach as high, he would immediately quit the territory. But it doesn't work out in practice. Nine times out of ten there will be a dozen Woolfs in the same neighborhood, no two of equal size, yet they hunt their berries and rob their bee trees in perfect peace. Perhaps the impulse still remains, a dim, remembered instinct, long after it has outlived its usefulness—just as man, ten thousand years after his arboreal existence, will often throw his arms into the air as if to seize a tree branch when he is badly frightened.

It was a roundabout trail home, but yet it had its advantages. It took him within two miles of Snowbird's lookout station, and at this hour of day he had been particularly fortunate in finding her at a certain spring on the mountain side. It was a rather singular coincidence. Along about four he would usually find himself wandering up that way. Strangely enough, at the same time, it was true that she had an irresistible impulse to go down and sit in the green ferns beside the same spring. They always seemed to be surprised to see one another. In reality, either of them would have been considerably more surprised had the other failed to put in an appearance. And always they had long talks, as the afternoon drew to twilight.

"But I don't think you ought to wait so late before starting home," the girl would always say. "You're not a human hawk, and it is easier to get lost than you think."

And this solicitude, Dan rightly figured, was a good sign. There was only one objection to it. It resulted in an unmistakable inference that she considered him unable to take care of himself—and that was the last thing on earth that he wanted her to think. He understood her well enough to know that her standards were the standards of the mountains, valuing strength and self-reliance above all things. He didn't stop to question why, every day, he trod so many weary miles to be with her.

She was as natural as a fawn; and many times she had quite taken away his breath. And once she did it literally. He didn't think that so long as death spared him he would ever be

able to forget that experience. It was her birthday, and knowing of it in time he had arranged for the delivery of a certain package, dear to a girlish heart, at her father's house. In the trying hour he had come trudging over the hills with it, and few experiences in his life had ever yielded such unmitigated pleasure as the sight of her glowing, white and red, as she took off its wrapping paper. It was a jolly old gift, he recollected. And when she had seen it, she fairly leaped at him. Her warm, round arms around his neck, and the softest, loveliest lips in the world pressed his. But in those days he didn't have the strength that he had now. He felt he could endure the same experience again with no embarrassment whatever. His first impression then, besides abounding, incredible astonishment, was that she had quite knocked out his breath. But let it be said for him that he recovered with notable promptness. His own arms had gone up and closed around—and the girl had wriggled free.

"But you mustn't do that!" she told him.

"But, good Lord, girl! You did it to me! Is there no justice in women?"

"But I did it to thank you for this lovely gift. For remembering me—for being so good—and considerate. You haven't any cause to thank me."

He had many very serious difficulties in thinking it out. And only one conclusion was obtainable—that Snowbird kissed as naturally as she did anything else, and the kiss meant exactly what she said it did and no more. But the fact remained that he would have walked a good many miles farther if he thought there was any possibility of a repeat.

But all at once his fantasies were suddenly and rudely dispelled by the intrusion of realities. Even a man in the depths of concentration cannot be inattentive to the wild sounds of the mountains. They have a commanding, a penetrating quality all their own. A mathematician cannot walk over a mountain trail pondering on the fourth dimension when some living creature is consistently cracking brush in the thickets beside him. Human nature is directly opposed to such a thing, and it is too much to expect of any man. He has too many race memories of saber-tooth tigers, springing from their lairs, and likely he has heard too many bear stories in his youth.

Dan had been walking silently himself in the pine needles. As Lennox had wondered at long ago, he knew how by instinct; and instinctively he

practiced this attainment as soon as he got out into the wild. The creature was fully one hundred yards distant, yet Dan could hear him with entire plainness. And for a while he couldn't even guess what manner of thing it might be.

A cougar that made so much noise would be immediately expelled from the union. A wolf pack, running by sight, might crack brush as freely; but a wolf pack would also bay to wake the dead. Of course it might be an elk or a steer, and still more likely, a bear. He stood still and listened. The sound grew nearer.

Soon it became evident that the creature was either walking with two legs, or else was a four-footed animal putting two feet down at the same instant. Dan had learned to wait. He stood perfectly still. And gradually he came to the conclusion that he was listening to the footfall of another man.

But it was rather hard to imagine what a man might be doing on this lonely hill. Of course it might be a deer hunter; but few were the valley sportsmen who had penetrated to this far land. The footfall was much too heavy for Snowbird. The steps were evidently on another trail that intersected his own trail one hundred yards farther up the hill. He had only to stand still, and in an instant the man would come in sight.

He took one step into the thickets, prepared to conceal himself if it became necessary. Then he waited. Soon the man stepped out on the trail. Even at the distance of one hundred yards, Dan had no difficulty whatever in recognizing him. He could not mistake this tall, dark form, the soiled, slouchy clothes, the rough hair, the intent, dark features. It was a man about his own age, his own height, but weighing fully twenty pounds more, and the dark, narrow eyes could belong to no one but Bert Cranston. He carried his rifle loosely in his arms.

He stopped at the forks in the trail and looked carefully in all directions. Dan had every reason to think that Cranston would see him at first glance. Only one clump of thicket sheltered him. But because Dan had learned the lesson of standing still, because his olive-drab sporting clothes blended softly with the colored leaves, Cranston did not detect him. He turned and strode on down the trail.

He didn't move quite like a man with innocent purposes. There was something stealthy, something sinister in his stride, and the way he kept such

AL ACRES—Al and Percy Are Certain That the Automatic Works.

—By Frank R. Leet



a sharp lookout in all directions. Yet he never glanced to the trail for deer tracks, as he would have done had he been hunting. Without ever waiting to meditate on the matter, Dan started to shadow him.

Before one hundred yards had been traveled, he could better understand the joy the cougar takes in his hunting. It was the same process—a cautious, silent advance in the trail of prey. He had to walk with the same caution, he had to take advantage of the thickets. He began to feel a curious excitement.

Cranston seemed to be moving more carefully now, examining the brush along the trail. Now and then he glanced up at the tree tops. And all at once he stopped and knelt in the dry shrubbery.

At first all that Dan could see was the glitter of a knife blade. Cranston seemed to be whittling a piece of dead pine into fine shavings. Now he was gathering pine needles and small twigs, making a little pile of them. And then, just as Cranston drew his match, Dan saw his purpose.

Cranston was at his old trade—setting a forest fire.

CHAPTER VI.

FOR two very good reasons, Dan didn't call to Cranston at once.

The two reasons were that Cranston had a rifle and that Dan was unarmed. It might be extremely likely that Cranston would choose the most plausible and effective means of preventing an interruption of his crime, and by the same token, prevent word of the crime ever reaching the authorities. The rifle contained five cartridges, and only one was needed.

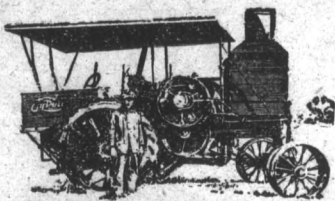
But the idea of backing out, unseen, never even occurred to Dan. The fire would have a tremendous headway before he could summon help. Although it was near the lookout station, every condition pointed to a disastrous fire. The brush was dry as tinder, not so heavy as to choke the wind, but yet tall enough to carry the flame into the tree tops. The stiff breeze up the ridge would certainly carry the flame for miles through the parched Divide before help could come. In the meantime stock and lives and homes would be endangered, besides the irreparable loss of timber. There were many things that Dan might do, but giving up was not one of them.

After all, he did the wisest thing. He simply came out in plain sight and unconcernedly walked down the trail toward Cranston. At the same instant, the latter struck his match.

As Dan was no longer stalking, Cranston immediately heard his step. He whirled, recognized Dan, and for one long instant in which the world seemed to have time in plenty to make a complete revolution, he stood perfectly motionless. The match flared in his dark fingers, his eyes—full of singular conjecturing—rested on Dan's face. No instant of the latter's life had ever been fraught with greater peril. He understood perfectly what was going on in Cranston's mind. The fire-fend was calmly deciding whether to shoot or whether to bluff it out. One required no more moral courage than the other. It really didn't make a great deal of difference to Cranston.

He had been born in the hills, and his spirit was the spirit of the wolf—to kill when necessary, without mercy or remorse. Besides, Dan represented, in his mind, all that Cranston hated—the law, gentleness, the great civilized world that spread below. But in spite of it, he decided that the killing was not worth the cartridge. The other course was too easy. He did not even dream that Dan had been shadowing him and had seen his intention. He would have laughed at the idea that a "tenderfoot" could thus walk behind him, unheard. Without concern, he

(Continued on next page.)



"Old Number One," the first OilPull, built in 1909, has worked ever since and isn't half through. Repairs cost less than 5c a day. Owned by Frank Schultz, Agar, S. Dak.



OilPull Number 174, built in 1909, 12 years ago. The owner C. J. Chandler, Lincoln, Kan., says it will last another decade. The only renewed parts of motor are four piston rings.



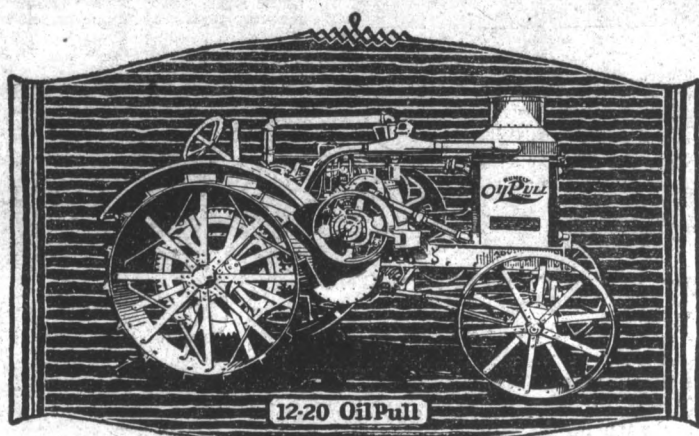
OilPull Number 314, owned by F. Gasperich, Onida, S. Dak. Built in 1909, it has cropped from 600 to 900 acres a year. Pulls eight bottoms in soil so tough that eight horses can't pull a single bottom.



"The Swamp Angel," so named by proud admirers in Northern Indiana for its ten years' work in the muck of the famed Kankakee. Has a record of marvelous performance and economy.



OilPull Number 437, bought in 1910, owned by James Moss, Blue Island, Ill. Is still "young" after 11 years of hard, faithful work on the farm, and moving buildings at odd times.



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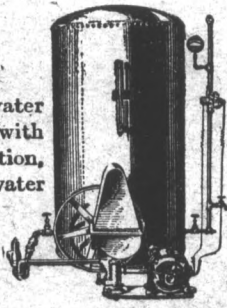
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The Bible and a Square Deal

Our Weekly Sermon—By N. A. McCune

THERE are some books of the Bible that have been discovered within very recent years. That is, their real meaning is now plain to us. These books are being read, studied as they never have been before. Bible classes are studying them, ministers are preaching from them. One might almost say that a new teaching has arisen in the church, from the re-discovery of these books. They include Isaiah, Amos, Hosea, Micah, and in fact, all of the minor prophets. Who reads the minor prophets? Certainly the average church member does not, because he does not understand them. They are not interesting. But after the setting of these books was appreciated, it was found that they are not books on theology so much as they are books on great, burning economic questions, the questions that faced the people in the days when the prophets lived, these little known Bible books took on a new meaning.

The prophet Amos was the first of the writing prophets. He lived in the eighth century B. C. He is one of the great figures of Scripture. He was followed by Hosea, one of the saddest figures of the Old Testament. These men faced a nation that was filled with class distinctions. There was the aristocracy, and there were the poor, the piteously poor, hardly better than slaves. There was land monopoly, and the increase of wealth, until there was no justice nor honor left in the land. Conditions had become so desperate that these prophets could not hold their peace. They felt the hand of God was on them, and they must warn the nation of impending doom. A people where such violent injustice was openly practiced, could not, they said, endure. Isaiah pictures conditions so luridly that he says hell is too small to hold all the wicked, and will have to be enlarged. Micah, coming after Isaiah, says there is little hope for the nation left. It will fall an easy prey to the Assyrians on the north. He ridicules the religious ritual of the day, and warns the people that God will not be hoodwinked by such practices. Then he utters those undying words: "What doth the Lord require of thee, but to do justly, and love mercy and walk humbly with thy God?" This was Roosevelt's favorite verse of Scripture. Everyone ought to know it by heart.

DURING the reign of Josiah the book of Deuteronomy was found, and it made a profound impression. By the king's command the people began to put into operation some, if not all, of the teachings of that remarkable book. To recite some of its mandates is almost like a chapter out of Utopia, or like some socialistic literature. Brotherhood is at its height. Every seven years money that has been loaned to the poor, is to be remitted. And money lenders are admonished not to refuse a loan, when the seventh year is drawing near. The orchardist is not to gather every last particle of his crop. He is to leave some, so that those who have none may come and get a supply. If the farmer forgets a

sheaf or two, he is not to go back to the field for it. The widow will need it, or the wild fowl will feed on it. This touch of care for the wild life in nature is the beginning of the spirit which came to its fullness in the words of Him who said, "Not a sparrow fall-eth to the ground without your father." As for the unsocial crimes, adultery, theft, murder, they are denounced with an everlasting curse. How happy the world would have been in the weary centuries that were to follow, if these teachings had been observed! The cost of brotherhood may seem high at times, but the price of class hate is infinitely higher.

The Voice of the Pack

(Continued from preceding page.) pipe. It was a curious little truce. And then he leaned back against the great, gray trunk of a fallen tree. "Well, Cranston," he said civilly. The men had met on previous occasions, and always there had been the same invisible war between them. "How do you do, Failing," Cranston replied. No perceptions could be so blunt as to miss the premeditated insult in the tone. He didn't speak in

his own tongue at all, the short gut-teral "Howdy" that is the greeting of the mountain men. He pronounced all the words with an exaggerated precision, an unmistakable mockery of Dan's own tone. In his accent he threw a tone of sickly sweetness, and his inference was all too plain. He was simply calling Failing a milksop and a white-liver; just as plainly as if he had used the words. The eyes of the two men met. Cranston's lips were slightly curled in an unmistakable leer. Dan's were very straight. And in one thing at least, their eyes looked just the same. The pupils of both pairs had contracted to steel points, bright in the dark gray of the irises. Cranston's looked somewhat red; and Dan's were only hard and bright.

Dan felt himself straighten; and the color mounted somewhat higher in his brown cheeks. But he did not try to avenge the insult—yet. Cranston was still fifteen feet distant, and that was too far. A man may swing a rifle with in fifteen feet. The fact that they were in no way physical equals did not even occur to him. When the insult is great enough, such considerations cannot possibly matter. Cranston was hard as steel, one hundred and seventy pounds in weight. Dan did not touch one hundred and fifty, and a deadly disease had not yet entirely relinquished its hold upon him.

"I do very well, Cranston," Dan answered in the same tone. "Wouldn't you like another match? I believe your pipe has gone out."

Very little can be said for the wisdom of this remark. It was simply human—that age-old creed to answer blow for blow and insult for insult. Of course the inference was obvious—that Dan was accusing him, by innuendo, of his late attempt at arson. Cranston glanced up quickly, and it might be that his fingers itched and tingled about the barrel of his rifle. He knew what Dan meant. He understood perfectly that Dan had guessed his purpose on the mountain side. And the curl at his lips became more pronounced.

"What a smart little boy," he scorned. "Going to be a Sherlock Holmes when he grows up." Then he half turned and the light in his eyes blazed up. He was not leering now. The mountain men are too intense to play at insult very long. Their inherent savagery comes to the surface, and they want the warmth of blood upon their fingers. The voice became but- tural. "Maybe you're a spy?" he asked. "Maybe you're one of those city rats—to come up and watch us, and then run and tell the forest service. There's two things, Failing, that I want you to know."

(Continued next week).

Fighting Diseases With a Tooth Brush

State Board of Health Urges Readers to Watch Carefully One Source of Many Ailments

"Our live contains a thousand springs,
And dies if one be gone,
Strange that a harp of a thousand
strings
Should keep in tune so long."

THE most important "springs" of the human body, perhaps, are our teeth. Directly or indirectly, infections of our teeth and gums cause a great many of the fatal diseases.

We all know, or have met, elderly people who boast of retaining all of their teeth, in perfect condition, even though they used to crack hickory nuts with them when young. But very seldom can the phrase, "as clean as a hound's tooth," be applied to them. And much of the sickness these "sound toothed" people may have suffered could be traced directly to the unclean condition of their mouths. They have luckily escaped dental decay, but the indirect effects of their bacteria-laden teeth can not be reckoned.

So we would say to the person who wishes to keep his health, and to the person who desires to improve his general physical condition: Keep your teeth clean; have a dentist examine them periodically; and have all cavities treated immediately.

Five minutes daily is all the time required to keep infection out of the teeth and gums if it has not progressed beyond the primary, or surface, stage where it can be reached by contact with a tooth brush and dental floss. Surely this is not a great deal of time when it will prevent long hours in a dentist's chair, and loss of time and suffering from affections such as rheumatism, appendicitis, and heart trouble caused by poor teeth.

Decay starts, and infection starts, from the little particles of food that lodge between the teeth. Should you examine your teeth in a mirror after a meal you will notice little bits of food in white patches near the edges of the gums. Little red-like bacteria start to grow in these particles. Just as a heavy summer shower stimulates the growth of young cabbage plants so the warmth and moisture of the mouth and the particles of food furnish a fertile

soil for the rapid growth of these bacteria.

If the food particles are not removed with a toothpick, and the teeth cleaned with a brush and dental floss, the bacteria thrive, an acid forms on the teeth, and decay begins. The work of the bacteria can be compared to that of the weathering of old and moss-eaten tombstones in an old burial ground, weathering which may finally obliterate the letters and figures on the headstones. It is the same process by which floating limestones slowly become part of the soil in which they are found.

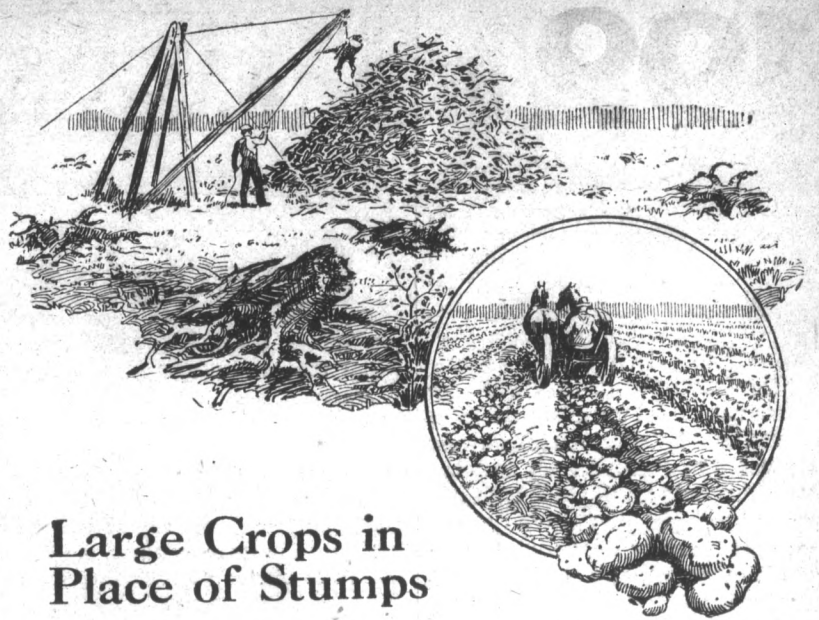
Given time, the bacteria work down to the roots of the tooth where they cause decay that will extend up into the softer parts of the tooth itself. Abscesses often develop at the roots of teeth without decay giving immediate warning. In these cases, whenever pressure is exerted upon the tooth, or teeth, such as in eating, the tooth and abscess acts as a syringe, pumping constant streams of pus and bacteria into the blood and throughout the body. It is in this manner that the teeth and gums are the direct, or indirect, source for many of man's fatal infections.

"A clean tooth never decays." We have long had this statement thrown at us from magazine advertisements extolling some particular brand of tooth paste or powder, but it is well to remember that no dental preparation will keep teeth clean and free from decay unless they are brushed properly.

We are advised to brush the teeth up and down, and never cross-wise. The reason for this is not only because the up-and-down rotary motion cleans the teeth better, but because the cross-wise method often wears little hollows at the base of the teeth, exposing the sensitive and softer parts, and so necessitating filling.

Most people use too large a brush to clean their teeth. The long bristles and length of the brush proper produce no friction, and friction is necessary to clean the teeth. A small brush,

(Continued on page 79).



Large Crops in Place of Stumps

Mr. Clark G. Kuney, Three Lakes, Wisconsin, brushed, stumped and plowed 1,000 acres of cut-over land in fifteen months with the aid of Hercules Dynamite. The first crop yield on this new land was 40,000 bushels of potatoes and 3,000 bushels of rye, which paid the entire cost of clearing, planting and harvesting. This is just another instance of how progressive land owners in "Cloverland" are "pushing back the brush line" with

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\$44 Buys the New Butterfly Jr. No. 234

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A great variety of desserts and salads is made of each of the six different flavors of

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You do not have to cook to make any of them, but only dissolve the Jell-O powder in boiling water.

For a few cents you can serve six or more persons with one of the most delightful desserts or salads.

The flavors are: Strawberry, Raspberry, Lemon, Orange, Cherry, Chocolate, 2 packages for 25 cents.

Jell-O is sold at any grocery or any general store. If you cannot get Jell-O at the store where you trade we will supply you direct by mail at the regular price, paying postage ourselves.



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Established 1879

Woman's Interests

The Stitch in Time

IT was a heathen Chinese who said he thought the Americans were crazy.

"They wait till they're sick and then pay a doctor to make them well," he complained. "Now, we pay doctors to keep us well, and if we get sick we don't pay him. The sicker you Americans get the more you pay the doctor. What's to hinder him keeping you sick so his pay will go on?"

The logic of the Chinaman's philosophy is beginning to penetrate the

Then a nourishing meal at twelve o'clock, and bed for two hours, from one until three o'clock. At three they get up, play outside until dark, and then there are stories and games, weaving mats and basketry, mending for the girls, supper, and bed on the sleeping porches at seven for the younger children, and eight o'clock for the older ones.

In between there are household tasks. The boys have to take care of their own beds, porch and dressing-

his clean bed that first night in the home that never in all his life had he slept in woolen blankets. When he entered the preventorium his underclothes had not been off in six weeks. Now he is the dandy of the place, he would spend his time in the bath tub if he weren't chased out, his clothes are always in perfect condition, and he never has to be sent from the table to wash his hands.

One of the girls at eleven years of age had never been to school. She didn't know the alphabet, even, not because she was not bright but because she had always been too delicate to do anything, even to play. There wasn't anything wrong with her organically. All she needed was sensible treatment, the right food at the right time, outdoor play, and rest. She entered the preventorium in September and two weeks later started to school for a half day. By the last of November she was doing third grade work, and will enter the fourth grade in February. In the same time she gained sixteen pounds in weight, and three hundred per cent in spirits. She didn't know how to play with the other children when she came out, but now she's the leader.

Prevention. Isn't it better than cure? If the folks in your section begin to talk preventorium, you be a booster. It pays.

HOW MUCH DO YOU EAT?

NEXT in importance to the selection of proper foods comes the quantity necessary to keep us in perfect health.

Quantity requirements are based on so many things that this is a more difficult problem than quality. Occupa-



Supper Time in the Preventorium.

American mind. "Isn't it better," modern doctors and nurses and health boards ask, "to keep folks well, than to let them get sick and then pay out big sums for hospitals and medicine and nurses and doctors to put them on their feet? It doesn't cost near as much money to keep well as it does to get well. And think of the suffering you save!"

It is with that idea in mind that children's preventoriums are being established in various parts of the country. A preventorium, be it known, is a home to which children who are run down, ill-nourished, under weight and anaemic may be sent to be built up into normal, healthy youngsters. As it's name signifies, it is a place where treatment is given to prevent more serious conditions, usually tuberculosis.

A preventorium for West Michigan has just been opened near Grand Rapids, in an old farm home near enough to the limits so that parents living in the city and not owning "flivvers" will have no trouble in walking to the preventorium from the end of the car line.

The preventorium, which accommodates eleven boys and eleven girls, was opened in September, and it has been filled to capacity ever since.

Perhaps one reason it is always full is because the youngsters have such a good time there they fight efforts to send them home. Anyway, there is loud lamentation when a boy or girl is told he is perfectly well enough to go back home and get into the harness once more.

They have to work out at the preventorium, so it can't be hatred of washing dishes and cleaning walks that makes them want to stay. There is a half-day session of school for every child who is able to go, all day for some after they have been there a month or six weeks. They attend the country school near the home, run to the preventorium at recess for a glass of milk, and then back until noon.

room, scour wash bowls and bath tubs sweep, dust and even help with dishes. The girls do similar work, and in addition set the table. There is only one hired helper in the kitchen, a nurse in charge, and a janitor, so you can see that every child must do some little task in order to keep the wheels moving.

But with it all there is plenty of fresh air, stated and regular hours of rest, regular meals, and loads of milk.



Amid Beautiful Surroundings, this Home is Ideal for the Undernourished Child.

And how those starved looking youngsters respond to the treatment!

A gain of five pounds the first week is the rule. One youngster broke the record by gaining ten pounds in the first eight days. A lad who was found sleeping under a stairway, a mass of skin and bones, and clothed in rags so filthy that they had to be cut off and burned, gained fifteen pounds in six weeks. For months all he had had to eat was what he could buy with the few pennies he earned selling papers. He told the nurse as he crawled into

tion, whether active muscular work or sedentary, as office work, sewing, studying, etc., age and sex all enter into the problem of deciding how much we shall eat. It goes without saying that a man engaged in heavy outdoor work would need more food than a clerk or student, that men need more food than women, and that adults need more than children, while the youth needs more muscle-building food than the four-year-old, and the middle-aged person more than the aged. It takes a far-seeing mother to keep an eye on

the daily needs of every member of her family.

For some time those who are working out food problems have been telling us that we can get along with far less than most of us eat, and have better health. They are agreed in saying that men doing work like farming need about 3,500 calories per day, while those doing heavier work, as for instance, lumbering, need 4,000 calories. It will be seen from the accompanying table that, with the possible exception of breakfast, the amounts of foods here noted are about half of what the average healthy man devours when he is in good trim and working hard. Whether he would be benefited by cutting his dinner and supper in half is an open question and an interesting one.

I would like very much to know just how a healthy farmer would feel after six months' living with a dinner consisting of one cup of stew, two small potatoes, a side dish of some other vegetable, two slices of bread and butter, and one small piece of pie or a piece of cake or two cookies.

An active woman needs about one-fifth less food than a man engaged in heavy muscular work. A boy sixteen years of age needs about the same quantity of food as a woman, while a girl of sixteen needs about three-fourths as much, and a child of ten needs about half as much food as a man.

As these are the findings of men and women who have spent years in research, experimenting on thousands of people and watching results, it would seem that a great many of us need to reform. Every mother of growing boys can testify that, if the boy's appetite is taken as a gauge, he requires about twice the amount of food a man working at top speed will take.

Most men and women doing heavy muscular work, eat more than the amounts prescribed as reasonable. Few of us go away from the table with one serving of meat or vegetables. And how many farm cooks content themselves with serving pie or cake or cookies alone?

Perhaps experimenting would show many families the cause for the indigestion and its attendant ills which cause so many of us to take a day off every little while.

Necessary Calories for a Working Man.

A day's food which would furnish the necessary calories for a working man would be given by the following meals:

Breakfast.	Calories.
Cereal (1½ cups with ½ cup of milk)	250
Sausage or ham or bacon	200
Toast or bread (two slices) or two muffins	100
Butter (two tablespoonsful)	200
Sugar (two tablespoonsful)	100
Dinner.	
Meat (as meat pie, stew, steak, roast beef or pork or mutton) ..	400
Potato (mashed 1½ cups)	300
Vegetable (moderate serving) ..	100
Bread (two thick slices)	100
Butter (two tablespoonsful)	200
Pudding (rice, tapioca or bread pudding or suet or date pudding) ..	300
Supper.	
Stew, or macaroni and cheese or baked beans	400
Bread and butter	200
Fruit or fruit pie	200
Cake or cookies	300
Milk (one pint)	150

Total 3,500
(Only one serving of all the foods served at supper is necessary to furnish the desired energy).

REMOVING INK STAINS FROM WASH GOODS.

In many instances ink stains may be removed from white cotton or linen by soaking in sweet or sour milk for a day or two. If this does not give the desired results, place the material in a shallow dish and pour over it a saturated solution of oxalic acid, leaving

the material only a minute or two, and then rinsing thoroughly in clear water containing a little ammonia.

Ink stains can usually be removed from colored fabrics by soaking in either sweet or sour milk. However, unless the colors are fast, they will probably fade to some extent. As the milk becomes discolored, it should be poured off and replaced with more. It may take a day or two of soaking to remove all the stain.

HINTS FOR THE HOME DYER.

If you are planning to renew materials by dyeing, be sure to choose a color darker than that of the material to be dyed. Figured and striped goods are very hard to dye, and amateurs ought not to attempt them. Try the plain colors first.

Be sure to wash the goods before putting it into the dye. Grease and dirt spots will show unless this is done. Wool dye must be used for wool goods, and cotton dye for cotton fabrics. If you attempt to dye mixed goods, use dyes for cotton, and leave the material in the dye bath long enough for the wool or silk to take on the desired shade. Where wool material is stitched with cotton, cotton dye should be used unless it is possible to remove the stitching, in which case, wool dye can be used.

Hems and folds should be ripped open and interlinings removed. The materials must be immersed in the dye bath and stirred and turned frequently. The goods should then be rinsed in cold water until it no longer colors the water. Hanging up a dyed garment will sometimes cause the material to shrink. It is better to shake it until nearly dry. To be sure of the desired shade, start with a weak dye, and then dip the article several times. Boiling or allowing a fabric to cool in the dye deepens the color. Delicate fabrics should be squeezed dry.—Z. I. DAVIS.

FIGHTING DISEASES WITH A TOOTH BRUSH.

(Continued from page 77).

with bristles not over one-quarter of an inch in length, will be found most satisfactory and efficient, providing the user always remembers to brush with the "grain" of the teeth rather than across the "grain."

The wisdom teeth are the most abused teeth a person possesses. The opinion is current among some people that they should be extracted if they are not to cause trouble, yet structurally the wisdom teeth are the same as the rest of the molars. It is only because they are never given care that they have gained a bad name. Special care should be taken when brushing the teeth to see that the wisdom-teeth get as thorough a cleaning as do the incisors.

Then, too, the gums need brushing just as much as the teeth that grow from them. Brushing of the gums is necessary to remove the bacterial growth and dead epithelial scale which furnishes breeding soil for bacteria. Gums that are tender and sore can be made healthy and firm by a vigorous scrubbing with a tooth brush twice a day. Upon starting to brush the gums they may bleed and become very sensitive, but if the brushing is kept up for a week or ten days the soreness will pass away and the gums become pink and healthy.

(While careful cleaning of the teeth with a tooth brush removes the greater portion of foreign substance and bacteria, it cannot be expected to cleanse absolutely. Dental floss, carefully worked in between and around each individual tooth is the only thing that will do the trick without a dentist's aid. A trail of the dental floss, following brushing with a tooth brush, gives a feeling of cleanliness that is well worth the time spent.

Look into it!

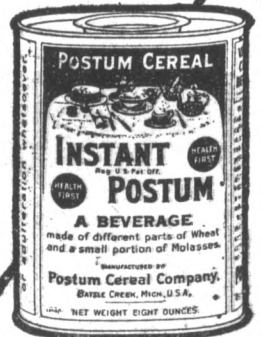
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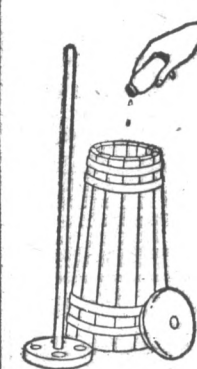
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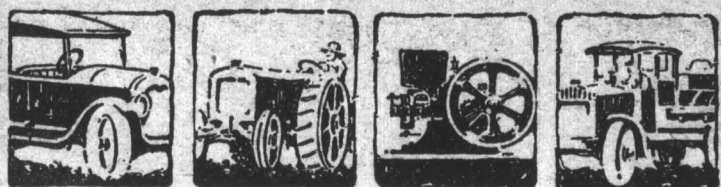
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When a farm engine has wasted oil or gasoline, lost some of its power, or has had too many fouled spark plugs, carbon troubles, or repairs of this kind—the chances are that its piston rings are leaking. They are probably worn out—or imperfectly designed or made. Such an engine needs better piston rings if it is to give you complete satisfaction during your busy season.

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Airedale Pups. Two months old from registered stock. Pedigrees furnished. Make fine watch dogs for homes and poultry. Males \$15. Females \$10. **R. G. Kirby**, R. 1, East Lansing, Mich.

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

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Our Boys' and Girls' Page

A Trip to the International

By Walter E. Ball

THE Michigan junior live stock was held at headquarters. Michigan judging team started from Char-lotte on November 25. It consisted of Carl Johnson, of Ironwood; Rex Stowe, of Cheboygan, and myself. We had been doing some practice judging at the M. A. C. for two days before starting for Chicago. When we reached Chicago we were met by Mr. Anderson, the assistant state club leader, and taken to the Y. M. C. A. Hotel, which we made our headquarters during our stay in Chicago.

We went out to the live stock pavilion at 7:30 the next morning to take part in the live stock judging contest. One team was allowed from each state, to consist of club members, or students of agricultural schools, between the ages of twelve and eighteen years. We were quite discouraged, as nearly all of the other contestants were high school students and appeared to be older than ourselves.

We judged six classes of animals, two classes of Percheron geldings, Hereford heifers, Shorthorn steers, Poland-China sows and Duroc barrows.

The contest was finished at two o'clock and we returned to our hotel. While there registering at the Armour Junior Club headquarters, we heard the results of the contest. Georgia won first, Michigan second, and Iowa third. You can imagine that we were surprised, for we had little hope of being placed so high.

On Sunday we went to church at the Central Church of Chicago, on Michigan avenue, where we heard Dr. Gun-saulus deliver a sermon. Monday was the first day of the club tour which the Armour Company had arranged for club members who had won trips to Chicago, and who came from all parts of the United States. All the club members, about four hundred and fifty, assembled at headquarters in the morning. We were taken to the stock show from there in special cars. When we reached there we were met by the Armour Girls' Band. Led by them we paraded into the live stock show grounds, where "movies" were taken of us. We were then dismissed, and looked over some of the animals exhibited there and watched the judging of animals. We were surprised to find what a large number of animals were entered in a single class, some classes having as many as forty animals.

In the evening we were entertained in the evening a Junior Club Rally in the Riviera Theater, where we saw

Michigan was honored there by having Mr. Turner, our state club leader, lead all the states in singing club songs together. We were addressed there by J. R. Howard, president of the American Farm Bureau Federation; George F. Farrell, club leader for the north and west, and by O. H. Benson, president of the Eastern States' League.

The next day was spent in the Armour plant. We watched the killing of hogs, sheep and cattle and saw them from the time they were killed until they were put in the cold storage plant. We found that every part of the animal was saved, from the blood to the toenails.

We were given a demonstration on carcass cutting, which showed us the factors that influenced the value of meat. The talk on government meat inspection was interesting, as we were told the methods followed by the inspectors to save all meat that was healthy and discard that which would be injurious to people.

After having dinner in the Armour restaurant we were taken to the Armour by-products plants, where we saw the manufacture of soap and washing powder. Following our supper in the Armour restaurant we were entertained in the Armour gymnasium by Armour's Orchestra, Dramatic Club and Glee Club.

Wednesday was Loop Day, the first event on the program being a visit to the Art Institute. There guides showed us the paintings, statues and relics of interest. We then visited Marshall Field's store, supposed to be the largest in Chicago. There we were permitted to see \$7,000,000 worth of fur garments and trophies of big game hunters. These furs were stored by Marshall Field in his cold storage by private individuals. We were entertained for dinner in Marshall Field's restaurant. After dinner we visited the Continental and Commercial National Bank, where we met Mr. George Reynolds, the president of the bank. He gave us a short talk on the value of good citizenship. From here we took a special train for Lincoln Park, where we visited the Zoo. There is a fine collection of animals there, both American and foreign. We saw them feed the animals, which was very interesting.



Michigan's First Consolidated Rural School Band of Boys and Girls is Organized at Gaines.



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some of the "movies" that had been taken of club activities during the week. The last day of the tour was Thursday, Manufacturers' Day. The first factory we visited was the McCormick factory, where much of our farm machinery is made. We had a chance to see its development from the molds and molten iron to the finished product. We visited the twine factory next, where the bales of hemp from the south are made into binder twine for our harvest fields. At noon we were entertained for dinner in the McCormick restaurant.

After noon we took special cars to the Corn Products Company. This is a large factory. It has seven dynamos, the largest costing \$250,000. The coal for the furnaces that heat the boilers isn't handled by hand. It is carried by a large steel crane from the coal cars to a huge hopper over the boiler plant. Chutes from this hopper takes the coal directly into the furnaces.

Seventy-five thousand bushels of corn is ground per day. This is made into corn starch, elastic starch, corn sugar, lard substitute and syrup. We returned to headquarters from there, where we took a last farewell to our friends, who were going home.

The six-horse teams attracted our attention greatly, especially those of Swift & Co. They were large, massive, well built, powerful, dappled greys. Other animals attracting our attention were the champion carlot of Angus steers, the grand champion Angus steers, and the grand champion Shorthorn bull, Pellipar Iris, which had been the grand champion at the English Royal. We started for Charlotte at 5:00 o'clock, after a very interesting and instructive week in Chicago.

BOYS MOURN THE DEATH OF "COOKIE" JONES.

COOKIE JONES is dead! This startling and sad information came to the writer a few days ago from one of the "State Fair School Boys" from Jackson county. Since that time a score of the boys who camped on the fair grounds last September have written in stating they had written one or more letters to Cookie Jones and received no reply.

At the time of the older boys' conference at Grand Rapids, Mr. Jones



"Cookie" Jones.

was taken sick very suddenly and removed to the hospital. He sank rapidly and died of acute tonsillitis. He was about fifty years of age, never married, and never had a home of his own since he left his parents' home in Wales. His parents still survive. Mr. Jones was a metal tester. During his spare hours since the war he had devoted his whole time to the Y. M. C. A., church and community service work. Scores and scores of boys will miss his companionship, as he was an untiring worker and taught the highest life by example. J. H. BROWN.

Why Wheat Prices Dropped

FINDINGS of the Federal Trade Commission, which was directed by the President to investigate the causes of the decline in wheat prices, made public at Washington, December 20, were as follows:

1. The outlook for an increased world supply.
2. Concentrated buying by foreign governments last spring and slack purchases later.
3. "Unprecedented" importations from Canada following an "unprecedented yield and a discount in rate of exchange."
4. The record breaking yield of corn and the large yield of oats.
5. The slackening in domestic demand for flour.
6. The general tendency toward commodity declines.
7. The change in credit conditions "with resulting disposition of distributors to refrain from accumulating usual stocks."

The report says further: "The limited evidence available does not establish manipulation of wheat prices by large operators in futures nor that the recent low average or downward trend of wheat prices has been due to speculative manipulation."

The study of marketing of grains is one of absorbing interest now being taught in many colleges. Literature on this subject will be sent **FREE** to growers, grain handlers and others legitimately interested. Simply send request for "literature" to the Chicago Board of Trade and it will be sent immediately. Do it today—Now.

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Just send your name and address, size and color and I will send this sweater to you. You don't pay one penny until it is delivered to your door by the postman.

Army Navy

For Men or Women

This is a real heavy winter sweater made of heavy mixed marine yarn. Slip-over style, with V neck and full length sleeves. Just like picture. Will give excellent wear. Sizes to fit Ladies or Men 34 to 46. Colors, khaki or navy blue.

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Delivery Free Just send your name and address, no money. When the sweater is delivered at your door by the postman, pay him \$1.98 for the sweater. We have paid the delivery charges. Wear it. If you don't find it all you expect, return it and we will cheerfully refund your money at once. Order by No. 72. Dept. Z-2101. **Walter Field Co., 310 S. Michigan Ave., Chicago**

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FOR JANUARY SHIPMENT

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prevented, and constant milk
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subject to many ailments that are
first manifested only in a reduced
milk yield.

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yourself with the aid of Kow-
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Ferrets for sale. White or Brown. Send for free
instruction book and price list.
LEVI FARNSWORTH, New London, Ohio.

Wisconsin Dairy Conditions

By William J. Anderson

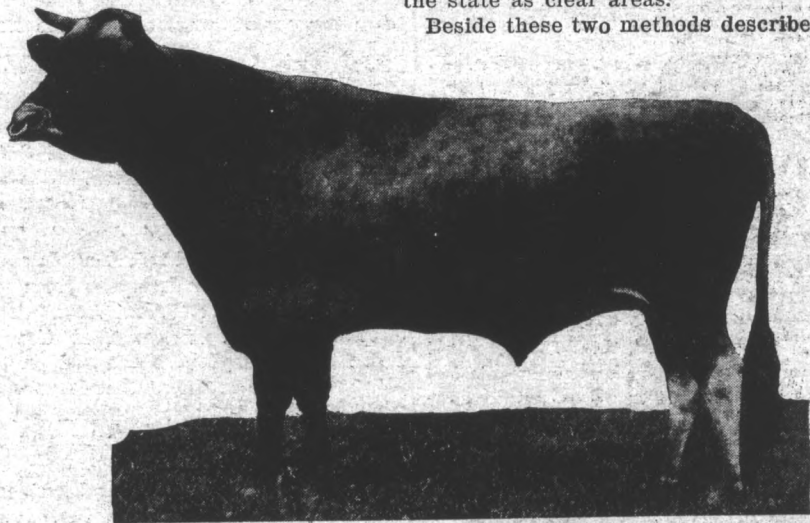
TWO movements directly affecting and work is progressing in other north-
the dairy industry in Wisconsin ern counties.
are noticeable at this time. They

are entirely distinct in character, but
they have a common purpose, that of
improving dairy conditions in the state.
The first and most important of these
is the stupendous effort being made
by the State Department of Agricul-
ture to eradicate tuberculosis from the
dairy herds of the state. The second
is the campaign being carried on to
make general throughout the state the
cooperative marketing of dairy prod-
ucts. The latter is being fostered and
encouraged by the State Division of
Markets.

The two outstanding methods of tu-
berculosis eradication in use here both
originated in Wisconsin, and, it may
be said without boastfulness, they are
making more conspicuous progress in
this state than in any other among the
thirty odd states which have adopted
them. The first method is known as
the "clear area" method whereby a
township or a county, or any other se-
lected unit is freed of all traces of the
disease and by close attention kept
free. Gradually by this means of re-
peated testing and the elimination of
reactors, there ceases to be any re-
actors and the bringing of untested
cattle into the area is forbidden. This

THE second method being used to
stamp out bovine tuberculosis is
the accredited herd plan. In this work
the State Department of Agriculture
cooperates with the United States De-
partment of Agriculture. There are
now in Wisconsin, outside of the clear
areas already described, four hundred
and thirty-two accredited herds—that
is, herds in which repeated tests have
eliminated all reactors. Each month
this number is increased as the work
of testing and eliminating goes stead-
ily on. The accredited herd plan has
been a great boon to those who buy
and sell dairy stock. An animal from
an accredited herd, carrying the joint
certificate of the state and federal de-
partments of agriculture, is given the
right of way into other states or coun-
tries. In Wisconsin the business of
buying and shipping dairy cattle has
developed to big proportions. Hundreds
of carloads of grades and registered
cows are yearly shipped out of Wis-
consin to other states and to Canada
and South American states. By these
two methods described the State De-
partment of Agriculture expects to be
able within five years to announce all
the northern timberland counties of
the state as clear areas.

Beside these two methods described,



Better Dairying will Follow Some Concerted Plan of Cleaning Up and Grad-
ing Up Farm Herds.

is a slow method of work, but it is a
practicable and a sure one as has been
proven. Sometimes the work has been
held up because of lack of funds by
the Department of Agriculture, but it
has steadily made headway until now
Professor Norgord, state commissioner
of agriculture, is able to report four
clear areas in the state. These are,
first, the western and larger portion of
Waukesha county in the southern por-
tion of the state. This is the most pro-
ductive dairy section, and has the large-
est cow population of any area of the
same size in the state. The second is
Washington Island, in Green Bay, a
detached portion of Door county, which
is wholly free from reactors. This is-
land while not the first field of work,
was the first absolutely clear area, its
situation away from the mainland lend-
ing itself readily to the cleaning-up
process. At the present time it would
be as difficult to land an untested cow
or bull there, as it would on the Island
of Jersey.

Barron county in the northwestern
portion of the state has sixty-nine thou-
sand cows and the last test by the de-
partment inspectors showed only forty-
two-one-hundredths of one per cent, of
reactors. These latter were at once
removed and now Barron county is the
largest single area in the United States
that is absolutely free from any trace
of the disease. Lincoln county, a wood-
ed county formerly and now a big pro-
ducer of milk, is virtually cleaned up,
which may be called the wholesale
means of ridding the state of the de-
structive disease, others less direct
and on a smaller scale are being car-
ried on in connection with creamery
and cheese factory patrons. The leg-
islature has made provision for testing
free on request, the cattle owned by
any group of factory or creamery or
condensary patrons, when the aggre-
gate is three hundred cows or more;
or for paying half the expense if the
group herds number less than three
hundred.

Still another method of fighting the
disease is provided by a law enacted
in 1917, which requires that any cream-
ery or cheese factory which does not
pasteurize the milk received by it, or
if the milk is not from accredited herds
or a clear area, must pasteurize its by-
products before they are distributed.
It was found that tuberculosis among
hogs as well as among calves which
used the whey or buttermilk from fac-
tories was increasing at an alarming
rate. The State Department of Agri-
culture collected data showing that in
1917 the loss in hogs from tuberculosis
amounted to \$1,800,000. As nearly as
could be judged the prevalence of tu-
berculosis among the hogs was due in
part to the feeding of whey and but-
termilk, and in part to allowing hogs
to follow infected cattle.

Prof. C. P. Norgord, head of the
State Department of Agriculture, in
urging his tuberculosis eradication pro-

gram before the legislature four years ago contended that the well-established fact that fifty per cent of tuberculosis among the children of this country could be traced to the use of milk from infected cows, made heroic measures imperative, even if no reference were made to the immense property loss sustained annually by dairymen and stock raisers. The next four years will witness in Wisconsin the most extensive campaign against animal diseases ever undertaken by any state.

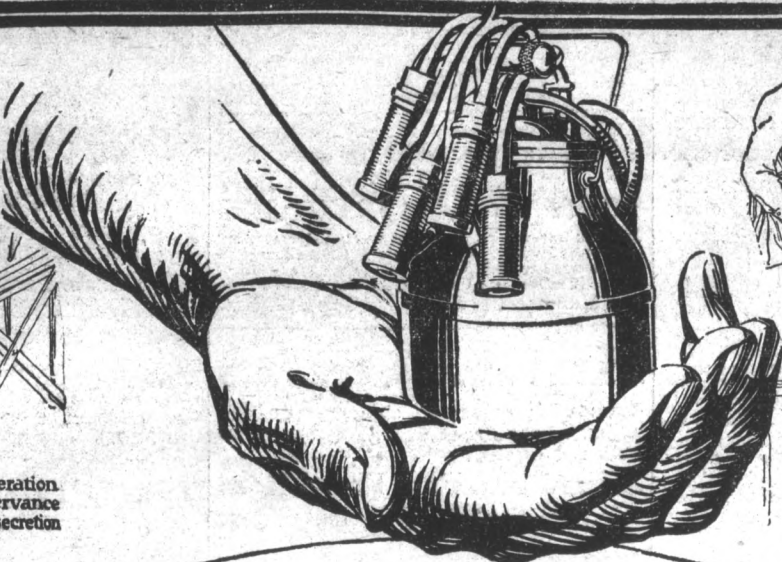
THE second movement to improve dairy conditions referred to, that of establishing upon a broad and substantial foundation cooperative marketing, has gained much headway. There is already in existence, and has been since 1914, a strong marketing organization among cheese manufacturers—the Wisconsin Cheese Producers' Federation. This is made up wholly of manufacturers of American cheese, but a meeting is to be held within a month to form a similar organization to handle the foreign brand cheese, of which a great deal is made in Wisconsin. There is now proposed by the federation another advanced step in cooperation, namely, the organization of the Wisconsin Dairymen's Storage Company. The plan has the endorsement of the State Division of Markets, the Economics Department of the State University, and the Farm Bureau Federation. This plan contemplates getting a majority of all the cheese producers of the state into the federation, and the organization of a \$250,000 corporation to take over two warehouses and thus enable the federation to secure the advantages in marketing its products which storage facilities will give it. The plan has such excellent endorsement that there seems no doubt about it being put through. The directors of the Cheese Producers' Federation are getting out an address to all cheese producers pointing out the immense advantages which will accrue from having storage facilities. "Dairymen," says this address, "must directly or indirectly pay for cheese storage houses, and their upkeep and they might as well own and operate them." In the past seven years the cheese men assert the chief profit in dairy products has not been in production, but in marketing the products. The storage company will be organized with only about two thousand dollars of common stock which will have all the voting power. The balance of the \$250,000 will be preferred stock carrying a guaranteed return of six per cent. Once the new company is launched and has taken over the two storage houses it will put up new storehouses as needed.

The recent drop in the prices of milk and milk products has caused much disquietude among farmers. It is commonly said that prices at the present range, without going lower as they seem likely to do, involve an actual loss to dairymen. This situation is stimulating interest in the cooperative schemes and it is not improbable that these may go in some directions to unreasonable lengths. Director Nordman, of the State Division of Markets, feels that the farmers are too slow in taking up cooperative marketing of their products. In a recent letter Mr. Nordman says if the farmers are really sincere in their desire to get higher prices for their products they must show more willingness than they have yet done in aiding the cooperative movement.

A big wolf hunt was staged in Edward county, Illinois, under the management of the farm bureau. Wolves have been killing pigs, lambs, chickens and geese. A round-up hunt with eleven captains and four hundred men made a drive through ten sections of land and succeeded in killing six wolves.



Designed with consideration for the cow and in observance of the principles of milk secretion



Built to De Laval Standards



Backed by De Laval Service



Its Uniform Pulsations Please the Cow

Designed Right
Built Right
Installed Right
It is Right

A Better Way of Milking

LONG ago the De Laval Company realized there is no more reason for hand milking than for harvesting a grain crop by hand. But designing a milker was not simply a problem in mechanics. A successful mechanical milker must work in harmony with the delicate organism of a living cow.

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Now the many De Laval users are practically unanimous in their agreement that it not only saves time and eliminates drudgery, but actually increases the flow of milk.

The De Laval will make your dairy business more profitable and pleasant. Write for full information.

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Sooner or later you will use a De Laval Milker or Cream Separator

BREEDERS' DIRECTORY

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Wildwood Farms Angus

Effies Lass 238203 sold on May 6th for \$7100. She was sired by Black Monarch 3rd. We are offering for sale Editor of Wildwood 295059 a full brother in blood lines to Effies Lass also four more choice bulls which are old enough for service and sired also by the champion show and breeding bull Black Monarch 3rd.

Our herd is under State and Federal Supervision.

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

For Sale

Woodcote Trojan-Erics

We are offering ten cows bred to either IMP. ELOHO OF HARVESTOUN, or IMP. EDGARDO OF DALMENY. Write for our 1921 BULL SALE LIST.

Woodcote Stock Farm, Ionia, Mich.

The 2nd Annual

Mich. Aberdeen Angus Breeder's Ass'n Sale will be held at M. A. C. East Lansing, on Jan. 14, 1920. This space is contributed by Geo. Hathaway & Son, Ovid, Mich. A few females and an aged bull to spare at private sale.

For Sale Having decided to sell part of my herd of pure bred Aberdeen Angus cattle, consisting of males and females of different ages. ANDREW P. EITEL, Vermontville, Mich.

Reg. Aberdeen Angus bulls and heifers from 6 to 18 mos. old of the very best of breeding, also Berkshire Swine, boars ready for service and pigs both sex singles, pairs or trios, will accept Liberty Bonds. RUSSELL BROTHERS, Merrill, Mich.

REGISTERED Aberdeen-Angus. Ten heifers, six bulls from eight to fourteen months. Best of breeding, the growthy kind that make good. Reasonable. Inquire F. J. WILBER, Olio, Mich.

Village Farms Guernseys

for sale. High grade milking cows, heifers and heifer calves. Also registered bulls from 1 month to serviceable age whose dams are on test and making good records. Write or come and see the herd. Rex Griffin Herdsman, O.J. Winter, Prop. Sebawaing, Mich.

Registered Guernsey Bull

coming serviceable age, carrying 5 May Rose crosses. Sire won five 1st. prize and one grand championship. Dam's A. R. record 10170 lb. milk 510.2 lbs. fat. Should head a high class herd. Priced right. PAUL LOVE, St. Austell Farms, Jackson, Mich.

Registered Guernseys 9 mos. old bull calf, coming serviceable age, nearly old enough for light service, extra well grown. Right in every way \$100. Heifer 8 mo. old no relation \$200. J. M. WILLIAMS, No. Adams, Mich.

Guernseys. Federal Inspected. Only 1 serviceable bull left. Born Nov 1919. Dam's and sire's dams A. R. records over 400 lbs. b. f. Class G. Traces 3 times to Imp. Masher Sequel. Will ship on approval. Three bull calves under 7 mos. G. W. & H. G. Ray, Albion, Mich.

Guernsey Cow Five years old. Due this month \$200. Also fine heifer calf dropped in Nov. 1920. \$100. First check takes them. Be G. A. WIGENT, Watervliet, Mich.

GUERNSEYS - REGISTERED BULL CALVES Containing blood of world champions. HICKS' GUERNSEY FARM, Saginaw, W.S. Mich.

Guernsey Bulls of May Rose Breeding. Their dams have records 420 to 650 lbs. fat also a few cows and heifers are offered. H. W. WIGMAN, Lansing, Mich.

For Sale Six registered Guernsey bulls May Rose breeding ready for service. Cheap if taken soon. John Ebels, R. 2, Holland, Mich.

GUERNSEY BULL CALVES whose sire's dam made 19,460.20 milk, 909.05 fat. Their mother's sire's dam made 15,109.10 milk, 778.80 fat. T. V. HICKS, Battle Creek, Mich.

GUERNSEYS

Bull calves for sale. Sired by Anton's May King that sold for \$7,000. Farmers prices and guaranteed to please. GILMORE BROTHERS, Camden, 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.

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N. P. Hanson, Westbury, Minnesota, writes:

"Nine years ago I purchased my first purebred Holsteins, three young heifers and a bull. One of those heifers cost \$175 and now has five daughters, four granddaughters and four great granddaughters. For the whole family a conservative estimate of their value is \$15,000—not so bad for a \$175 investment nine years ago."

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The Traverse Herd

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

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Holsteins of Quality

for sale. Heifers from 8 to 24 months old. All registered and sold subject to tuberculin test. E. A. HARDY, Rochester, Mich.

Here Is A Good One.

A yearling son of Maplecrest De Kol Hengerveld. The sire having three sisters, each with records of over 1200 pounds of butter in a year, two of them former world champions. Calf's dam sister is three each with records of over 1200 pounds by Pontiac Angie Korndyke. This combination of breeding has produced more 1000 to 1200 pound cows than any other of the breed. If progeny counts, where can you equal it? Price \$150.00 for quick sale. Hillcrest Farm, Mgr. F. B. Lay, Kalamazoo, Mich.

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You can't afford to use a poor one.
We have good ones of all ages listed
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Let us know your needs.

**The Michigan Holstein-Friesian
Association**

H. W. NORTON, Jr., Field Secretary,
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**Two Grandsons of
King Of The Pontiacs
Ready for Service**

From 31.18 and 28.39 lb. dams

Sire:—King of the Pontiacs Segis No. 169124, who is
by King of the Pontiacs and from Hillsdale Segis
(a 33 lb. daughter of King Segis) "Nuf Ced."
Dams:—Topsy Clothilde Fobes No. 172906 made 31.18
lbs. butter and 23.8 lb. milk in 7 days.
Sunny Brook Nina Segis No. 43727 at 4 years produced
28.39 lbs. butter and 587.6 lbs. milk in 7 days and
105.91 lbs. butter and 2319.6 lbs. milk in 30 days.
These bulls are nicely marked and Good Individuals.
Herd under federal supervision. Come and see them.
For pedigree and information write Mr. Fred Alt, Mgr.

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Romeo, Mich.**

Holstein Friesian heifer and bull calves, purebred
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Splendid individuals and breeding. Write us your re-
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Pure Blood Holsteins to their new
home, 1 1/2 miles south of Rochester, Mich.
and for the next 30 days we will sell
what bull calves we have cheap as we
will be unable to get our buildings com-
plete before winter. So get busy if you
want a son of Flint Maplecrest Boy
at your own price.

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Buy a "milk" Bull of Quality from the Breeders
of the world's only cow to produce 800 lbs. milk in 7
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Our advertised bulls are selling fast.
Here are two good ones:

No. 1. King Vale Colantha De Kol, No. 307701-

Born Oct. 11, 1919.

A "TOP NOTCH" individual, backed by fifteen

dams who average 30.73 lbs. butter in 7 days.

Price \$175.00 f. o. b. Howell

No. 2. Cornucopia Wayne Segis King, No. 318409

Born Dec. 6, 1919.

His 4 nearest dams average 25.39 lbs. butter in 7 days.

Dams, a 22 lb. cow with a daughter who produced 83.

74 lbs. milk and 25.39 lbs. butter in two consecutive

years. Price \$125.00 f. o. b. Howell.

No. 1 Bull about one quarter white.

No. 2 Bull about half and half.

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Our herds under U. S. Supervision.

2 Heifer calves sire a 27 lb. son of Maple Crest Korn-

dyke Heng. Their dams have 19 lb. 2 yr. old

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A bull calf ready for service. Combines show
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Herd sire, Model King Segis Glista, whose grand-
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Offers the best selection of young bulls from 8 to
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Yearly records up to 24000 lbs. milk and 1000 lbs.
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lbs. butter in 7 days and 1344 lbs. butter and
23421 lbs. milk in a year, or by Dutchland Kon-
tigon Sir Rag Apple, our Junior Herd sire, whose
dam is a 30 lb. 10 yr. old maternal sister of Dutchland
Colantha Denver who made 36 lbs. in 7 days and 1315
lbs. butter and 2531 lbs. milk in 1 year. Several carry
the blood of both these sires.

They are extra well grown, straight and right. One
of these at the head of your herd is bound to increase
production.
Send for pedigrees and prices.

R. Bruce McPherson, Howell, Mich.

Reg. Holstein-Friesian cows and heifers, priced to
freshen soon. B. B. Reavey, Akron, Mich.

Federal Herd Bull For Sale Old enough
Accredited 7 da. milk 467.50, butter 20.35, 305 da.
milk 16.15, 3, butter 648. She has 2 A. R. O. daughters.
His sire a 24 lb. grandson of Colantha Johanna Lad,
and three heifer calves 7 mos. old not related to bull.
All for \$500. Vernon Clough, Parma, Mich.

Reg. Holstein bull calf born Nov. 1920 extra
choice breeding and individual-
quality, \$60 reg. and del. J. B. Hicks, St. Johns, Mich.

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born Dec. 5, 1918. From a Federal accredited herd.
Four of his 7 nearest dams have A. R. O. records above
30 lbs. Dams record 22 lbs. at 26 months, her dam 30
lbs. Sires dam three records above 30 lbs. This bull
is offered for no fault and is fit to head a registered
herd. W. B. READER, Howell, Mich.

**Registered Here-
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In order to reach every farmer and breeder wanting
good bulls I will offer for a limited time a few good
ones at \$100 to \$125, ages 12 to 18 mos. (act quick).
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Cows with calves at side, open or bred
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Herefords For Sale Fairfax and Disturber blood.
150 Reg. head in herds, \$35
reduction on all sires, choice females for sale. Write
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**The "Marvel Cow" of all Breeds
A JERSEY**

Vive La France 319616 has won this
distinction as the result of her first
four official records, which are as fol-
lows:

Age	Lbs. Milk	Lbs. 85% Butter	Carried ca Days
Test Began	9210.4	745	199
2 yrs.	12744.8	1050	153
3 " 2 mo.	14925.7	1213.6	175
4 " 7 "	15271.8	1222.6	245
5 " 11 "			

Average butter-fat test 6.8 per cent.

Just think! Over 50,000 lbs. of milk.
Over 4,000 lb. of butter and 5 living
calves before her seventh birthday.
Isn't she a Marvel? And a Jersey.
Yes she is certainly a Great Cow, but
not the only Great Jersey.

Write Sec'y Henrikson of Shelby,
Mich. for free Jersey literature.
There are others.

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Facts"—two important books, telling
how farmers are making real profit today
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where. Whether you are interested in
one cow or a hundred, these books will
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BUTTER BRED JERSEY BULLS
CRYSTAL SPRING STOCK FARM,
Silver Creek, Allegan County, Michigan.

For Sale Jersey bull calves of Majesty breeding from
good producing stock. Herd on Govern-
ment "Accredited List." Write for price and pedigree
to C. A. TAGGETT, R. 2, Fairgrove, Mich.

Lillie Farmstead Jerseys Bull calves from
COLON C. LILLIE, Coopersville, Mich.

Jersey Bulls from R. of M. dams \$75 to
\$150 each. NOTTEN FARM, Grass Lake, Mich.

Jersey bulls for sale: From Marguerite's Premier
a grandson of Pogi's 99th and R. of M. dams,
SMITH & PARKER, R. 4, Howell, Mich.

Meridale Interested Owl No. 111311 heads my herd
bull calves from this great sire and out of R. of M.
dams for sale. Leon E. Laws, R. 6, Allegan, Mich.

Registered Jersey Bulls for sale. Bred right and
spriced-right. Herd under Federal and State Su-
pervision. Raymond E. Bamer, R. 4, Saline, Mich.

BIDWELL SHORTHORNS
BUY A BULL

that will put weight on your dairy calves—the dif-
ference will soon pay for the bull. Now selling good
Scottish and Scotch-topped yearlings, reasonably priced.
We guarantee every animal to be a breeder. Federal
Test. One hour from Toledo, Ohio, N. Y. C. R. R.

BIDWELL STOCK FARM,
Box D, Tecumseh, Michigan

Bloomdale Shorthorns
See our cattle get our prices and breeding before buy-
ing. Both bulls and females for sale.
CARR BROS. & CO., Bad Axe, Mich.

Milking Shorthorns, bulls and heifers 5 mo. to 1
year, for sale at reduced prices to make room
for younger stock. E. H. KURTZ, Mason, Mich.

DISPERSION SALE

Farmington, Mich., February 3rd, 1921

Thirty Head High Class Holsteins

The entire herd, all raised on the farm.

Daughters of Johanna Korndyke DeKol, Pietertje Hengerveld Mer-
cena DeKol, Beauty Walker Pietertje Prince 2d, and The King of But-
ter Kings as well as a number of grand daughters of King Segis Pontiac.

All tuberculin tested and sold with a 60 to 90 day retest privilege.
All females of breeding age guaranteed breeders.

One year's time at 6% interest to responsible parties. Bring your
bank reference. For catalog address

Albert E. Jenkins, Sale Mgr., Eagle, Mich.

John H. Johnson, Owner, Farmington, Mich.

O. I. C. BOARS

Choice individuals; shipped to you c. o. d. express paid and guaranteed
right or your money refunded. All stock registered in buyer's name.

J. CARL JEWETT, Mason, Mich.

O. I. C. HOGS

all ages sired by Callaway Edd 1918 world's grand champ. boar and C. C.
Schoolmaster 1919 world's grand champion also Wonder Big Type and Giant
Buster. Write your wants, all stock shipped on approval.

CRANDELL'S PRIZE HOGS, Cass City, Mich.

The Maple's Shorthorns

Kirklevington Lad, by Imp. Hartford
Welfare. In service, bulls for sale.

J. V. WISE, Gobleville, Mich.

Richland Shorthorns

Imp. Lorne, Imp. Newton champion and
Sterling Supreme in Service. We offer
for quick sale: Five Scotch Bulls, best
of breeding. Three whites at \$1000 each. One
roan at \$500, one red at \$400. No females for
sale. Public sale Chicago Oct. 28th.
C. H. PRESCOTT & SONS,
Tawas, City, Mich.

BRANCH COUNTY FARM
Breeders of
American Polled Shorthorn Cattle

For Sale two splendid bulls now ready for service.
and two younger ones that will be ready for light ser-
vice Jan. 15th. We also are offering at this time a few
bred cows and heifers. Herd headed by Victor Sultan
and Sultan's Gift. Prices very reasonable. Write your
wants. Geo. E. Burdick, Mgr., Coldwater, Mich.

Milking Shorthorns Breeding the best bulls from
high producing cows.
O. M. YORK, Millington, Mich.

VALLEY VIEW FARMS

Choice young Shorthorn cows and heifers for sale at
all times, bred or open, or a carload, also a few young
bulls strong in Sultan Blood. Write
S. H. FANGBORN & SON, Bad Axe, Mich.

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

Scotch-Topped Shorthorns Two cows, 2 year old
heifer, yearling heifer,
and bull calf. Write for pedigrees and price.
SHOESMITH & BRICKER, East Lansing, Mich.

Milking Shorthorns Bull calves \$100.00 each.
Federal accredited herds. Davidson
and Hall, Beland and Beland, Tecumseh, Mich.

Reg. Red Polled cattle choice young bulls from 6 to 18
mo. old for sale.
FRANK KEELER, R. 1, Grand Ledge, Mich.

Reg. Red Polled bull calves, from 3 mos. to 1 year
old, sired by Famous Charmer, 75% same blood as
Charmer 1919 International Grand Champion. Our herd
State and Federal tested. Westbrook Bros., Ionia, Mich.

HOGS

**LARGE
Berkshires**

The largest junior yearling sow of any breed,
at the 1920 International Livestock Exposi-
tion, was bred and exhibited by us. A won-
derful record for size at America's greatest
show. We can furnish you foundation stock
that is right. Gilts bred for April and May
farrow.

W. H. EVERY
Manchester, Mich.

Registered Berkshires, Gilts, and Sows bred for April
May and June farrow. A yearling Boar and a few
younger Spring pigs. Chase Stock Farm, Marlette, Mich.

Registered Berkshires for sale. Two young boars,
ready for service, two young gilts, a sow,
and younger ones of either sex. Let me know your
wants. JOHN YOUNG, R. 2, Breckenridge, Mich.

Bred Berkshire gilts for April farrow \$50. One short-
horn bull \$125. One Hampshire ram lamb \$35. Berk-
shire pigs \$10 & \$15. M. G. Mosher & Sons, Ossau, Mich.

Brookwater Duroc Jerseys
BOARS—Ready for Service
Bred Sows and Gilts

Write us for Prices and Pedigrees
Mail orders a Specialty. Satisfaction guaranteed.
BROOKWATER FARM, Ann Arbor, Mich.
H. W. Mumford, Owner J. B. Andrews, Mgr.



Spring pigs by Walt's
Orion, First Sr. Yearling
Detroit, Jackson, Gd. Rapids and Saginaw 1919
Phillips Bros, Riga, Mich.

DUROC JERSEY SWINE

for sale 2 yr. old herd boars, yearling boars and boar
pigs, also bred sows and gilts. Write for pedigrees and
prices. Come and see them.
THOS. UNDERHILL & SON, Salem, Mich.

Special Offer For December we will take orders for
1920 spring gilts bred for Mar. and Apr.
farrow 1921 at \$50 each excellent breeding. Gilts to be
shipped when safe in pig. Write or come and make
your own selection at once.
RUSH BROS. Romeo, Mich.

Duroc sows and gilts bred to Walts King 29499
who has sired more 1st and 2nd prize pigs
at the State Fair in last 2 years than any other Duroc
boar. Everyone will be a money maker for the
boar. Cat and price list.
NEWTON BARNHART, St. Johns, Mich.

DUROCS spring boars. A few gilts bred
for Sept. farrow at bargain prices.
W. C. TAYLOR, Milan, Mich.

Duroc Boars ready for service. Sired
King number 168259 son of the \$10,000.00 Champion
Jacks Orion King 2nd all large type and heavy bone
out of good sows.
THE JENNINGS FARMS, Bailey, Mich.

Duroc Jerseys Boars Boars of the large heavy
boned type at reasonable
prices. Write or better come and see.
F. J. DROTT, Monroe, Mich.

Duroc Jersey boars from 8 mo. to 1 yr. old. Select
young sows mated to maintain size and correct
type. Prices reasonable, shipped on approval and
guaranteed right. **W. E. BARTLEY, Alma, Mich.**

Write Me at once I have just what you want
heavy bone registered Duroc Jer-
sey boars ready for service.
W. H. MAYES, L. B. 505, Durand, Mich.

DUROC JERSEYS
Carey U. Edmonds, Hastings, Mich.

DUROC JERSEYS Boars and gilts
by Mich. Path-
finder. **E. D. HEYDENBERG, Wayland, Mich.**

Michigana Durocs. We can fill your
wants. Several lines of
breeding represented including the Sensations. Satis-
faction guaranteed. **O. F. Foster, Pavilion, Mich.**

Big Type Chester Whites Spring boars sired
by Willwood Jr.
2nd, Hill's Big Bone, Col. Wykoff, Smith's Giant and
Champion X Jr. and out of good big dams. Cholera
immune and satisfaction guaranteed. Also fall pigs,
either sex, not related.
N. L. HILL, Jr., Mackinaw, Ill., Tazewell, Co.

Down With Prices on last fall and this spring's
O. I. C. Boars.
WEBER BROS., Royal Oak, Mich.

O. I. C.'s choice spring pigs either sex. Booking orders
for fall pigs. We register free and ship C. O.
D. **A. J. BARKER & SON, Belmont, Mich.**

KENT FARMERS ANXIOUS.

(Continued from page 60).
is practically a unit against the submission of such an amendment. Why? In the counties above named, the cities will be able to control the county referendum. Kent county country people have had a certain lesson in natural history impressed upon them rather emphatically these past dozen years. It is that little lesson, so comforting to minorities that 'the big fishes eat the little ones.' We wish to disclaim here our belief that it is the intent of the organization and men calling for the amendment, to bring about a certain situation whereby they can, as organizations or citizens, dominate the government of their respective counties. However, that moment that you take away from a minority unit any measure of local self-government which it has enjoyed, an attempt will be made by selfish groups and individuals to arrogate to themselves more authority over that minority unit.

"The question has been asked in Kent county, 'Are you afraid to trust Grand Rapids to be fair with the rest of the county?' Assuredly we are, not because we distrust the thousands of fair-minded citizens in Grand Rapids, but because of the fact that in Grand Rapids there still remains groups and individuals who are able frequently to successfully dispute with the advocates of good government the policies which shall govern the city. As long as that condition exists the townships of the county desire to have, through their supervisors, personal representation upon such a vital matter as tax apportionment, not to mention numerous other important matters. They regard this representation as the keystone of their local self-governing rights, and they will never willingly surrender it.

"That there are grave weaknesses in our present system is admitted. The newly organized Township Voters' League of Kent County proposes to consult the best minds of the state and to submit at the incoming session of the legislature a bill that will remedy many, if not all, of these weaknesses, but which will at the same time not even endanger, let alone annihilate, the remnants of local self-government now enjoyed by rural residents who have a large city in their county.

"These are not the ill-considered sentiments of a zealous correspondent. They represent a consensus of opinion as arrived at by a large number of sober-minded Kent county men, who recognize the gravity of the situation, and who have thoroughly familiarized themselves with the issues involved."

EDGAR R. COCHRAN.

STATE FAIR SCANDAL.

MICHIGAN people were startled last week by the report of a split in the board of directors of the Michigan State Agricultural Society, under whose control the state fair is operated, when President J. S. Haggerty, of the society, gave publicity to the resignation of eight of its twenty directors as expressing their disapproval of the action of the board in voting George W. Dickinson, secretary-manager of the fair, a cash bonus of \$10,000 in addition to his salary of \$15,000. The directors who tendered their resignations to President Haggerty were: A. E. Stevenson, Port Huron; Jacob DeGeus, Alicia; H. W. Norton, Jr., East Lansing; H. H. Halliday, Clinton; Frank Coward, Bronson; Charles T. Prescott, Tawas City; Charles Evans, Tipton; John W. Smith, Port Huron.

Following this development Governor Groesbeck, in his message to the legislature, took cognizance of the situation by advocating the taking over and operation of the fair by the state. In a published interview President Haggerty was quoted as stating that

(Continued on page 37).



WHAT

Do you put in there?

FEED, yes. But—WHAT KIND is it?

At the fairs and dairy shows, many of the most successful dairymen tell us they get more dollars' worth of milk out of a dollar's worth of BUFFALO CORN GLUTEN FEED, fed mixed with wheat bran or mill-feed, oats, etc., than any feed they know of.

They probably never had anybody offer a reason why BUFFALO CORN GLUTEN FEED makes milk the way it does. They did not care WHY so much, as long as they got the milk. But the very high digestibility, in large measure, accounts for it.

See that there is plenty of BUFFALO CORN GLUTEN FEED mixture in the feed trough in front of your cows—and you will understand why BUFFALO CORN GLUTEN FEED is so well thought of on thousands of real dairy farms.

Corn Products Refining Co.
New York MANUFACTURERS OF Chicago
BUFFALO CORN GLUTEN FEED

FEED UP! Your dealer should have BUFFALO CORN GLUTEN FEED. If he does not, write us for literature and sample, giving us his name and address.

Write to
National Starch Co.,
606 Ford Bldg., Detroit, Mich.



Jan. 20, 1921, At One O'clock

Will Sell Entire Herd of

Registered Shorthorn Cattle and Percheron Horses

consisting of 14 cows and heifers 2 bulls of the following females

ALEXANDRINA MYSIE and YOUNG MARY'S

ONE IMP. PERCHERON STALLION

this horse was Imp. by Bell Bros., Wooster, Ohio in 1914; color, black, ten yrs. old and a sure foal getter. One span of 2 year old fillies and one span of geldings coming 4 and 5.

Sale will be held 2 miles north and 1½ miles west of Allen rain or shine.

All trains will be met at Allen. Parties coming to Litchfield or Jonesville will be met by calling farm.

JOHN SOUTHWORTH, Prop.

Auc. Andy Adams

HOGS

O. I. C's. One last fall boar wgt. 425, two last fall gilts, bred lots of spring pigs and this fall pigs either sex, good growthy stock ½ mile west of Depot. City's Phone 124. Otto B. Schulze, Nashville, Mich.

O. I. C. Gilts bred for April and May farrow. Service boars and fall pigs. F. C. BURGESS, R. 3, Mason, Mich.

O. I. C. Serviceable boars. A few extra good boars at farmers' prices. H. W. MANN, Dansville, Mich.

O. I. C's Fall pigs by C. G. Big Callaway have size and quality and are priced right. C. J. THOMPSON, Rockford, Mich.

O. I. C. Bred Gilts for Mar. and Apr farrow also a few choice service boars. OLOVER LEAF STOCK FARM, Monroe, 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. S. S. BENJAMIN, R. F. D. 10, Portland, Michigan.

Central Mich. O. I. C. Swine Breeders Ass'n.

Hogs of all ages of popular blood lines. Every sale guaranteed by association.

DR. H. W. NOBLES,
Sales Mgr. Coral, Mich.

For Sale O. I. C. Swine, Strictly Big Type with good boars and gilts left of same type and blood lines, that won for us at Ohio and Michigan State Fairs. Priced very cheap. Write us before you buy. NEWMAN'S STOCK FARM, MARLETTE, MICH.

O. I. C's. Big Type Gilts, bred for Mar. and April farrow. Boars all ages. Write me for prices. G. F. ANDREWS, Mason, Mich.

Combination Bred Sow Sale

50 HEAD 50

Big Type Poland Chinas

at the farm of
Geo. McKim, Albion, Mich.

JAN. 28th, 1921

Conveyances from Albion A. M. of sale Sale under cover.

Auctioneers Ed. Bowers Will Inman
Geo. McKim E. W. Landenberger
Albion, Mich. Parma, Mich.
Write for Catalogue

Closing out sale of big type Poland China hogs, which represents the work of 25 years of constructive breeding. Everything goes, including our three great herd boars, "Mich. Buster" by "Giant Buster", "A Giant", "Butler's Big Bob". Two of the best yearling prospects in Michigan great length, big bone, Come get your pick. Jno. C. Butler, Portland, Mich.

Large type Poland China's spring boars ready to ship. Everything immune from Cholera. A. A. FELDKAMP, R. No. 2, Manchester, Mich.

L. S. P. C. a few choice boars at farmers prices, gilts bred to Black Giant one of the best pigs out of Ill. this fall. Also a grandson of The Clansman and Harrison Big Bob. H. O. SWARTZ, Schoolcraft, Mich.

Big Bob Mastodon Spring gilts bred for March and April and some sows bred to Big Bob his sire was champion of the world, his dam's sire was Grand Champion of Iowa State Fair. C. E. GARNANT, Eaton Rapids, Mich.

L. T. P. C.

70 head of Poland Chinas at private sale. Am offering spring boars from \$40 to \$50 and gilts the same price. Summer and fall pigs \$25 each. The first check will bring you the first choice. HART, FULCHER & CLINE, Address F. T. Hart, St. Louis, Mich.

BIG TYPE POLANDS

Bred gilts for sale. Also a few choice fall pigs by The Clansman and his son The Clansboy. They are great. Immune and registered. Come or write. WESLEY HILE, R. 6, Ionia, Mich.

Big Type P. C. a few first class, 250 lb. boars left also some fall boar pigs good enough to head any herd. Come and see or write. E. R. LEONARD, R. 3, St. Louis, Mich.

L. T. P. C. Spring boars and gilts now ready to ship. Something good at a right price. W. J. HAGESHAW, Augusta, Mich.

Big Type Poland Chinas Long, heavy boned spring boars. Sired by Brewbaker & Son's great heard boar Gertsdale Timm. Stock all double immune. H. C. OVEN, Ovid, Mich.

Big Type P. C. some very choice boars double immune, out 1100 lb. sire and mammoth sows from Iowa's greatest herds. E. J. Mathewson, Burr Oak, Mich.

Big Type Poland Chinas bargain \$75 buys a bred gilt and a 250 lb. spring boar also choice gilts bred for \$40. Guarantee Satisfaction. DORUS HOVER, Akron, Mich.

Poland China Bred sows and gilts at bargain prices, also spring boars and fall pigs, either sex. CLYDE FISHER, R. 3, St. Louis, Mich.

Big Type Poland Chinas at lowest prices. Both sex, all ages, and bred G. A. BAUMGARDNER, R. 2, Middleville, Mich.

P. C. Bred sows. Fall pigs singly or in pairs. Also S. C. Minor cockerels all big type of the best of breeding. Satisfaction guar. R. W. Mills, Saline, Mich.

Registered Hampshire gilts now ready to ship. Spring boars and fall pigs at a bargain. JOHN W. SNYDER, R. 4, St. Johns, Mich.

YORKSHIRES Boars ready for service. Yorkshires cross makes an excellent market hog. Waterman & Waterman, Packard Rd. Ann Arbor, Mich.

SHEEP.

Wool-Mutton Shropshire Rams. Good strong in-bred, priced right. A. H. FOSTER, Allegan, Mich.

Registered Shropshire Ewes and rams. Jno. Grieve, R. 3, Fowlerville, Mich.

Shropshires Choice ewes, all ages, bred to imported ram. Also a few rams. W. B. McQUILLAN, R. 7, Howell, Mich.

Additional Stock Ads on Page 37

LATEST MARKET REPORTS

GRAIN QUOTATIONS

January 11, 1921.

Wheat.

Detroit.—Cash No. 2 red \$1.99; May \$1.94; No. 2 white and No. 2 mixed \$1.96.

Chicago.—No. 1 hard \$1.94½; No. 2 hard \$1.93¾; March \$1.78.

Corn.

Detroit.—Cash No. 3 yellow, new 75c; No. 4 yellow, new 72c.

Chicago.—No. 3 mixed 69c; No. 2 yellow 72@74c.

Oats.

Detroit.—Cash No. 2 white 51c; No. 3 white 49½c; No. 4 white 46½c.

Chicago.—No. 2 white 47@47½c; No. 3 white 45½@46½c.

Beans.

Detroit.—Immediate and prompt are steady at \$4 per cwt.

Chicago.—White beans steady. Hand-picked beans choice to fancy \$4.25@4.50; red kidney beans \$9@9.50 per cwt.

New York.—Market is dull. Choice pea, new \$5; do medium \$5.50@5.75; red kidney \$9.25@9.50.

Rye.

Detroit.—Cash No. 2 rye \$1.71.

Seeds.

Detroit.—Prime red clover cash and March \$13.50; alsike \$16.30; timothy \$3.50.

Toledo.—Prime red clover, cash and January \$13.50; alsike \$16.50; timothy \$3.45.

Hay.

No. 1 timothy \$26@27; standard \$25@26; light mixed \$25@26; No. 2 timothy \$24@25; No. 1 clover mixed \$23@24; No. 1 clover \$22@23; rye straw \$14.50@16; wheat and oat straw \$13.50@14 per ton in carlots at Detroit.

WHEAT

Not only is the wheat situation becoming stronger statistically day by day, but the fact is attracting an increasing amount of attention. The number of market operators who believe that higher prices will obtain later in the season is much more numerous than two months ago. It is more and more clear that our wheat supply is now virtually down to a domestic basis. The visible supply is gradually decreasing, totaling now 43,063,000 bushels, a loss of 2,108,000 bushels for the week. Export clearances for the last week reported were 9,509,000 bushels of wheat and 199,000 barrels of flour. The future course of the market depends to a considerable extent upon the anxiety of Argentine producers to get rid of their surplus.

CORN

Beginning with the first market day in January receipts of corn have shown a big increase. The mid-winter movement is gradually getting under way on an old-fashioned scale. Heaviest shipments are coming from Iowa and western points. Illinois and Indiana are also selling in liberal amounts. Demand for corn continues sub-normal, terminal elevators being the principal buyers, as the cash price is on a carrying charge when compared with the futures. There is a small volume of sales for export and corn industries are gradually resuming operations although they are now on only about a fifty per cent basis. Eastern demand is comparatively slight. The corn market promises to continue dull and draggy until the heavy winter movement passes the crest, after which more buoyancy may be expected. The detailed government figures by states show that the seven surplus corn states had 1,706,982,000 bushels, compared with 1,436,948,000 bushels last year and 1,832,000,000 bushels in 1912, the previous record crop.

OATS

Oats will probably continue to shadow the fluctuations of the corn market. Barley has gradually worked down more nearly to a parity with other grains.

SEEDS

Seed markets are working into a stronger position as the planting season comes closer and the period of liquidation passes. The markets have been advancing slightly but reacted the middle of the past week. Sellers can afford to wait over such low spots

as the probabilities are that bottom for the season has been uncovered.

FEEDS

Demand for all the principal by-product feeds will remain small and price changes have been mostly in a downward direction. As the winter progresses supplies in consuming sections are being depleted to some extent but not enough to cause any anxiety over future requirements so that purchases are made only from hand to mouth. Open weather continues in all sections of the country, materially reducing consumption. A slight increase in activity on the part of flour mills is increasing the available supply of wheat feeds.

Detroit.—Bran \$38; standard middlings \$36@38; flour middlings \$38@40; coarse corn meal \$34; cracked corn \$35@36; chop \$34.

HAY

The effect of the reduction in freight rates on hay from northwestern producing sections has not been perceptible in a big increase of receipts but dealers are apprehensive and consumers are waiting until the heavier movement arrives. The fact that demand is small and that heavy shipments would result in a sharp break in prices has discouraged many western producers from taking immediate advantage of the reduced freight rate. Just what the outcome is to be is uncertain, but the evidence favors the belief that hay prices have not yet struck bottom.

BEANS

The retail trade in beans has been slow in the east and easy to steady at midwestern markets. Current receipts have been ample in taking care of all wants. The demand consists chiefly of calls from the jobbers and prices are usually in buyers' favor. Trading in Kotenashi is dull, while the market for red kidneys is easy.

POTATOES

Potato prices sagged during the past week and again reached the season's low point. Northern round white stock at shipping points quoted at \$1.10@1.25; the Chicago carlot market is quoted at \$1.25@1.35. Shipments have increased again partly as a result of the warm weather, but are running considerably lighter than at the same time

last year. Growers in many sections are holding for higher prices. Another cargo of Danish arrived and others are reported afloat. Chicago.—Northern whites \$1.25@1.35.

Detroit.—Michigan round whites, No. 1, \$2.25@2.50 per 150-lb. sack.

BUTTER

Heavy receipts of foreign butter at eastern and western ports during the preceding week cast their shadow upon the butter market of the past week. Strength was manifested early in the session and slight advances were made at some of the principal distributing points, but reports of large shipments of New Zealand as well as California butter from the Pacific Coast to eastern cities caused a sharp break at Chicago. Larger receipts, the spring-like weather, and a prospective increase in the make were other factors. Another cargo of Danish was reported on the way to arrive about January 22. Fancy butter was especially abundant and has not been as strong at Chicago as medium grade butter. The market for storage butter was relatively firm most of the week. Receipts are slightly heavier than a week ago at the four principal markets. The market tone was decidedly unsettled at the close. Prices upon 92 score butter as quoted by the bureau of markets on January 8 were as follows: Chicago 49c; New York 53½c; Boston 54c; Philadelphia 54c per pound.

EGGS AND POULTRY

Notwithstanding the weakness in the markets for most other products of the farm, prices of eggs and poultry have advanced during the past few days. In both the supply is smaller than usual at this season of the year, but prices are so far out of line with other foods that declines at any time will not be surprising. The effect of high prices for eggs is shown in the receipt of a cargo from Australia on the Pacific Coast, part of which reached Chicago where the eggs graded as firsts and sold considerably below the domestic market. With average prices upon beef steers and hogs at Chicago about 9½c per pound the fact that poultry prices remain from 25@28c per pound is an exceptional showing. Detroit eggs, fresh candled 63@67c. Live poultry, spring chickens 30c; leghorns

23@24c; heavy hens 28@30c; light do 20@22c; roosters 18c; geese 28@30c; ducks 32@34c; turkeys 38@40c.

WOOL

Although prices remain low, an increasing volume of wool is passing from the hands of producers into the hands of dealers and manufacturers. The recent government auction held at Boston gave some encouragement to those who believe that prices are now on bed-rock. All the offering was sold. Foreign cross-breeds and low quarter-bloods predominated, some of the latter selling below 20c on the scored basis, chiefly to carpet manufacturers. Some grades were slightly lower, while others showed an advance of five to ten per cent over the November auction. There is a possibility that the Australian auctions will be discontinued until prices are higher and private sales in that country made since the last auction series registered a slight advance. Woolen goods markets remain unsettled but an increasing volume of orders is expected soon. Stocks of wool in the hands of mills are known to be below normal. The prospect that the emergency tariff which includes wool, will pass the senate is considered favorable and sellers are naturally disposed to wait for its influence.

CHEESE

Following the advance in Wisconsin country cheese markets prices in distributing centers have been firm to higher. The volume of orders increased but the amount of wholesale business is not yet up to normal. Prices upon held cheese have been firm and noticeable advances have occurred. The amount of fresh cheese arriving is comparatively small. There are reports that some of the condensaries will be reopened and this has been a factor in the strength of the market during the week but since most of these were turning their milk supplies into butter this is unlikely to prove a great help to cheese prices. A more potent influence was the arrival of the new year and the period of inventory taking after which buyers are expected to come into the market on a more liberal scale. Trade sentiment is optimistic.

APPLES

Apple markets have been steady to slightly lower during the past week at shipping points and in the principal consuming markets. Reports that storage stock is showing over-ripeness has been a disturbing influence.

DETROIT CITY MARKET

A very light supply of produce is being offered on the Detroit market and the movement of most products is slow. Track sales to jobbers reported by the United States Bureau of Markets are as follows: Potatoes \$2.25@2.35 for Michigan round white stock in 150-lb. sacks; apples \$4.50@5 per bbl. for New York Greenings; onions 75c@1 for 100-lb. sacks; cabbage \$20@22 a ton; carrots 75@90c a bushel; horseradish \$4@6 a bushel; parsnips 75c@1 a bushel; squash \$1.25@1.50 a bushel; turnips \$1.25@2 a bushel; popcorn \$2 a bushel.

"EAT MORE MEAT" CAMPAIGN.

A meeting of representatives of live stock men with delegates from the meat packers and live stock exchanges of the country has been called to consider a plan for increasing the demand for meat and for offsetting the vicious propaganda against the consumption of meat. The meeting will be held at the Saddle and Sirolo Club, Union Stock Yards, Chicago, at 10:00 a. m., February 11.

COMING LIVE STOCK SALES.

Holsteins.—February 3, John H. Johnson, Farmington, Michigan.
Shorthorns and Horses.—January 20, John Southworth, Allen, Michigan.
Poland-China.—January 28, George McKim, Albion, Michigan.

Farms and Farm Lands For Sale

High Class Dairy Farm For Rent

160 acres fertile land within one mile of town. Good buildings, barns to house 100 head of stock and feed for same. Will rent on share for term of years to good dairymen or stock men who can finance one-half of herd of 20 to 30 cows and furnish teams and tools. Address Box J115 care of Michigan Farmer, stating experience and financial ability in first letter.

Live Stock Market Service

Markets for January 12, 1921.

DETROIT

Cattle.

Market opened dull, closing 25@50c lower.

Best heavy steers	\$	9.50
Mixed steers and heifers	8.00@	9.00
Best cows	6.50@	7.00
Handy light butchers	5.75@	6.25
Light butchers	5.00@	5.50
Best cows	6.00@	7.00
Butcher cows	5.00@	5.50
Common cows	3.25@	3.75
Canners	2.50@	3.00
Choice bulls	6.50@	7.00
Bologna bulls	5.00@	6.00
Stock bulls	4.00@	5.00
Feeders	7.00@	8.00
Stockers	5.00@	6.25
Milkers and springers	5.00@	9.00

Veal Calves.

Market is dull and 50c lower.
Best\$14.00@14.50
Others8.00@10.50

Hogs.

Mixed hogs 10c higher; pigs are 25c higher.
Mixed hogs\$9.35
Pigs9.75

Sheep and Lambs.

Market on lambs 25c lower; sheep steady.
Best lambs\$10.50@10.75
Fair lambs8.00@ 9.25
Light to common4.00@ 6.00
Fair to good sheep4.00@ 4.50
Culls and common1.50@ 2.50

CHICAGO

Hogs.

Estimated receipts today are 26,000; holdover 11,008. Market 10@15c higher. Bulk of sales \$9.10@9.35; tops at \$9.50; heavy 250 lbs up medium, good and choice \$9@9.25; medium 200 to 250 lbs medium, good and choice \$9.10@9.35; light 150 to 200 lbs common, me-

dium, good and choice at \$9.20@9.50; light lights 130 to 150 lbs common, medium, good and choice at \$9.25@9.50; heavy packing sows 250 lbs up smooth \$8.25@8.75; packing sows 200 lbs up rough \$8@8.25; pigs 130 lbs down medium, good and choice \$9.25@9.50.

Cattle.

Estimated receipts today are 8,000. Market strong to 25c higher; calves lower. Beef steers medium and heavy weight 1100 lbs up choice and prime at \$11.25@12.25; do medium and good at \$8.75@11.25; do common \$7.65@8.75; light weight 1100 lbs down good and choice \$10@11.75; do common and medium \$7.40@10; butcher cattle, heifers, common, medium, good and choice at \$5@10; cows, common, medium, good and choice \$4.60@8.50; bulls, bologna and beef \$4.75@7.60; canners and cutters, cows and heifers \$3@4.60; do canner steers \$4@5.75; veal calves, light and handyweight, medium, good and choice \$10@12; feeder steers common, medium, good and choice at \$6.75@9; stocker steers common, medium, good and choice \$5@8.40; stocker cows and heifers common, medium, good and choice \$4.25@6.

Sheep and Lambs.

Estimated receipts today are 13,000. Lambs strong to 25c higher; sheep are strong. Lambs 84 lbs down, medium, good, choice and prime \$10.50@12; do culls and common at \$8@10; spring lambs medium, good, choice and prime at \$8.50@10; ewes medium, good and choice \$4.25@6; yearling wethers, medium, good and choice \$8.25@10.50.

BUFFALO

Hog prices are steady to a shade higher, heavy hogs bringing \$9.75@10; mixed \$10@10.25; others \$10.25@10.50. Lambs are steady at \$12; best calves at \$16.

Cut Feed Bills in Half!

FREE BOOK

How to Feed Live Stock

Write at once for your copy of this wonderful money-saving book, "How to Feed Live Stock." Don't send a penny. Mail postcard or letter NOW!

Book shows how live stock raisers are actually cutting their feed bills in half and doubling their profits through proved feeding secrets! Shows how many experienced farmers are losing big money through little feeding mistakes. Book fully illustrated and chock-full of valuable feeding information on Cattle, Horses, Swine, Sheep and Poultry.

A few of the chapters are: 7 Secrets of Successful Feeding—Methods that Boost Profits 30% to 40%—Daily Losses and Mistakes that Are Never Discussed—New Points on Off-Season Feeding and Baby Beef Production. Many others equally important! No theories—no wild ideas—no guesswork—But PROVED methods that bring real, bankable profits!

Book also tells all about Live Stock Feeding Association and how it is helping farmers in every section of the country to cut down feed bills and make bigger money. Book absolutely FREE! No obligation. WRITE TODAY!

LIVE STOCK FEEDING ASS'N.

Dept. 461, Pleasant Hill, Ohio

R. K. TIRES For Real Work!

that's why we guarantee them: A double-tread and chain-stitched rebuilt tire that not only never fails to do all you ask it, but does more—and then some! Twice as much fabric as an ordinary tire—and so full of real service that you simply can't overwork them.

The following are the little prices of our guaranteed tires:

Size Non-Skid	Price	Size Non-Skid	Price
30x3	\$8.50	34x4	\$10.50
30x3 1-2	7.50	34x4 1-2	12.00
32x3	8.00	34x4 1-2	12.00
33x4	10.50	36x4 1-2	15.00

2 percent off for cash with order, 10 percent deposit required with all C. O. D. orders.

R. K. Tire Company
837 No. Broad St., Dept. C, Phila., Pa.

Send for descriptive booklet and price list. Good Territory Open for Live Agents.



RAW FURS

WE pay the Market's Highest Mark. Are absolutely reliable—established 1853—capital, \$1,100,000. Write at once for FREE Price List and Booklet, "Successful Trapping." Postal will do. TRAUGOTT, SCHMIDT & SONS
153 Monroe Ave. Detroit, Mich.



Frozen Direct from fishery to you. Herring round per lb. 4¢, large dressed 5¢; Bayfish (Suckers) dressed 4¢; Smoked Bluefish 10 lb. basket \$1.00; Pickered winter caught round 7¢, dressed headless 9¢; Pike winter caught 11¢, dressed headless 15¢. Remit with order or send for complete price list.

Consumers Fish Co., Green Bay, Wis.

Big Profits Growing STRAWBERRIES \$500 to \$700 Per A. from Keith's Big New Land Plants

Will pay you big to get your start from our carefully selected New Land Plants, grown on fresh rich virgin soil. The best for you to plant for big profits. One variety brought growers \$700 per A. last year. We ship direct to you from our fields and guarantee them to satisfy or your money back. Three special varieties for Home Gardens. Write today for our New Catalog on Strawberries, Raspberries, Grapes, etc. and see our NEW LAND plants illustrated. It's FREE. KEITH BROS. NURSERY, Box 602, Sawyer, Mich.

MINERAL HEAVE COMPOUND FOR HEAVES

Booklet Free \$1.00 Box guaranteed to give satisfaction or money back. MINERAL HEAVE REMEDY CO., 463 Fourth Ave., Pittsburgh Pa.

STATE FAIR SCANDAL.

(Continued from page 85).

it was the consensus of opinion among the directors who had filed their resignations with him that in view of the salary and bonus voted Mr. Dickinson, \$25,000 in all, this precluded any appeal on their part to the legislature for financial aid for the fair.

For the past two years the legislature has appropriated \$75,000 annually for the support of agricultural fairs in Michigan. Of this amount \$24,000 per year has gone to the state fair and the balance to the other agricultural fairs held in the state. In 1917 and 1918 the state contributed \$16,000 per year to the support of the state fair. It is said that the profits from the 1920 fair were \$176,000. After payment of salaries the profits are used for the making of permanent improvements.

Mr. Dickinson's Statement.

Following these developments, Mr. Dickinson made the following statement:

"To the end that the operations of the Michigan State Fair may be an open book to the public, I invite an investigation of its affairs by the legislature.

"Since the management of the fair has become a desirable position, a number of men for personal reasons have kept up a continual guerilla warfare of rumors and suppositions against myself. I welcome this opportunity for a show-down.

"The public should understand that the resignations of eight of our directors were not spontaneous. The work of inducing members of our board to resign has been the result of a concerted and organized movement on the part of disappointed individuals. Of the eight resignations, three have been written on the same typewriter, apparently at the same time. Four of the directors who resigned 'in protest' voted for the bonus.

"As to my salary and bonus: I came to the fair eight years ago at a salary of \$5,000. The fair for many years had been a financial failure. It had no credit and a tremendous debt. The profits of the fair since I have taken charge have increased each year, the old debt has been cleared away, and my various increases in salary, step by step, have not been as large as the increase in the profits of the fair. The various rates of pay given me have been \$5,000 for three years, \$6,000 for one year, \$7,500 for one year, \$10,000 for two years, and one year ago, in December, 1919, I was tendered a five-year contract at \$15,000. Each of these increases in pay has been wholly without solicitation on my part, and all have been by unanimous action of the board.

"The bonus offered me this year was voted unanimously also, not only without solicitation on my part but during my absence. I told the board later I thought we should use the money in other ways. I prized the bonus very highly as a testimonial, but I have had no regard whatsoever for the cash involved, and as a matter of fact, I have not cashed it, and do not intend to."

Mr. Dickinson's statement was accompanied by a stenographic report of the minutes of the board meeting at which the bonus was voted. This report shows that four of the directors who have since resigned were present, and that the motion for the bonus was passed unanimously.

On the matter of the state taking over the fair, Mr. Dickinson said:

"When the fair was poor and struggling we never heard of the state assuming its burdens. Now that it has grown prosperous the proposal is made that the society turn over its grounds and equipment to some political board, to be created for the purpose. It would indeed be a rich plaything for any set of politicians, but we do not intend turning it over. We shall keep right on running the state fair."

Mr. Haggerty has been quoted as being in accord with the directors who have tendered their resignations, in his views on the bonus voted to Mr. Dickinson and the desirability of the taking over and operation of the fair by the state. He could not be reached to get a direct expression.

Fifty Indiana counties have completed membership drives this fall and twenty-eight more are reported to be ready for drives.

NEVINS SUCCESS WITH SMALL FRUITS

Do you know that you can obtain more health, pleasure and profit from a garden of strawberries and raspberries than from any other equal amount of land on your place? My beautiful new Catalogue greets you with a smile, and tells you something about ourselves and our favorable location where soil and climate combine to produce plants of superior quality. It tells: How to select varieties best adapted to your soil and needs. How to prepare the soil for planting. When to plant. The different systems of small fruit growing. How to plant. How to care for the patch. How to pick and market the fruit so as to obtain the highest prices. How to renew the patch. It is a Fruit Grower's Guide and whether you buy your plants of us or not you will need this helpful book—"Ne vins Success with Small Fruits." Send for your copy today. A postal will bring it.

ELMER H. NEVINS, Ovid, Mich.

EVERBEARING STRAWBERRY Our free Catalogue describes and illustrates a full line of choice small fruit plants. J. N. ROKELY. SEND FOR IT. B. 6. Bridgman, Mich.

TOBACCO Old Kentucky. Best natural Leaf chewing or smoking, mild or strong direct from farm. All pure tobacco no dope. 5 pound \$2.00. 20 pound and up 35c pound. Prepaid. D. W. DORON, Mayfield, Ky.

Mr. POULTRY FARMER:

We make a specialty of White Henner Eggs and have created a profitable market for your eggs the year around. We pay the highest premium for your Henner Whites—We remit same day shipments arrive. Ship Often—Ship by Express GEO. R. ELDRIDGE CO. 494-18th Street, Detroit, Mich.

Remember! We guarantee you satisfaction with every shipment

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

HAY Apples, Potatoes Wanted Highest prices paid. The E. L. RICHMOND CO., Detroit, Mich.

FOR SALE Cande Mammoth Incubator. Beef Scraps, \$5.00 per 100 lbs. TYRONE POULTRY FARM, Fenton, Mich.

FARM HELP

WANTED steady work on farm or dairy, life experience, age 35. Steady and reliable. Emerson Jerome, R. 1, Box 73, Coleman, Mich.

Farms and Farm Lands For Sale

Wealthy Lapeer Co., Farmer Retires From 230 Acre Modern Farm.

12 room, steam heated house, also new eight room tenant house, two large barns, modern dairy equipment, tile silt, filled, all kinds farm buildings, each electric lighted and well painted. Fine orchard. Best water. Good fences. Very productive gravel loan, clay subsoil. 200 improved, 10 hardwood, balance pasture 24 rye, 120 meadow, 8 new alfalfa. Adjoining M. O. Ry. Town, 50 miles from Detroit, improved highway. Prefer to sell fully equipped. Farm owned by same family from Government, never rented, never for sale before. Take part cash, part exchange, or Government Bonds, reasonable terms, priced to sell.

ELMER HOLMAN, Realtor, Lapeer, Mich.

Roses Now Blooming on Orange Grove Bungalow Farm

Bordering lake; only \$2250; on improved road near city. 20 acres fertile fields part covered fine overhead irrigation system; 23 acres valuable timber land, 200 bearing orange trees; delightful bungalow, oak shade, overlooking lake; owner non-resident, sacrifices, easy terms. Details and other Florida orange groves, farms, page 52 Strout's Illustrated Catalogue 1200 Bargains. Postpaid FREE. STROUT FARM AGENCY 1210ET Graham Bldg., Jacksonville, Florida.

For Sale Two very desirable quarter-sections of land, in Jefferson County, Idaho, on the railroad, one mile from the station of Roberts, with 400 inches of water in the Butte and Market Lake Canal. For particulars, address: F. C. SCHRAEDER, Denver, Colorado

115 A. Limestone and Alfalfa land in Black or Liberty Bond up to \$2000 or will trade on good improved 80 in Ohio of Mich. Write: H. S. ALBIN, Friendship, Tenn.

FOR Sale 122 acres best of improved land, good building fine location 3 miles from Lansing, \$152. With 14 A. wheat. S. W. HEMPEY, R. 7, Lansing, Mich.

Additional Farm Ads. on Page 86

POULTRY



Chicks
White Leg. 15¢
Eng. Leg. 15¢
Brown Leg. 16¢
Anconas 17¢

Sent Prepaid by Parcel Post Special price on 1,000 lots. Get your order in for some of these high grade chicks, hatched from selected bred-to-lay breeders, kept on free range.

WE GUARANTEE SAFE DELIVERY WYNGARDEN'S HATCHERY Box M. ZEELAND, MICH.

BABYCHICKS OF SUPERIOR QUALITY

Post Paid. SAVE MONEY by sending for our catalog. \$15.00 per hundred up. 500,000 chicks for 1921 and the quality will be of the best. Bred for Egg Production and the Show Room. Catalogue Free. THE E. V. & E. M. PIERCE CO. Owners and Operators of THE SUPERIOR CHICK HATCHERY, Lock Box 197, Prairie Depot, Ohio

DAY OLD CHICKS

and hatching eggs from select heavy producing stock. Delivery guaranteed. Wm. Leghorns, Bar. Rocks, W. Wyand., S. C. Reds, B. Orp. Cat. free. GOSHEN POULTRY FARMS, R-19 Goshen, Ind.

DAY-OLD-CHICKS \$16.00 to \$27.50 per 100. Hatching eggs, \$2.00 to \$15.00 per setting and \$9.00 to \$15.00 per 100. From 25 varieties of pure bred, farm raised fowls: Chickens, Geese, Ducks, Turkeys and Guinea. Price list and circular free. Plenty of nice breeding stock. Book now for early spring delivery. WILMINGTON HATCHERY & POULTRY CO. Wilmington, Ohio.

BARRED ROCKS Cockerels, Pullets, April hatched, get Norman's superior strain direct. Catalogue 25c. Circular free. NORMAN POULTRY PLANT, Chatsworth, Ill.

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

CHICKS, We ship thousands each season. Send for prices and testimonials. FREEPORT HATCHERY, Box 12, Freeport, Mich.

BABY CHICKS R. I. Red, Barred Rocks, White Wyandottes, White Leghorns, Selected healthy chicks. Order early, have winter layers. First hatch Feb. 28th. Write for price list and circular. DERR & ADAMS, Litchfield, Mich.

BABY CHICKS, Eight varieties at lowest possible prices. A trial order will convince you of their superior quality. Catalogue free. Ohio Poultry Yards and Hatchery, Marion, Ohio.

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

BARRED PLYMOUTH ROCK cockerels for sale, some twice thrifty birds from prize-winning stock \$4 and \$5. George H. Campbell, R. 5, Box 70, Ypsilanti, Mich.

BEST Breeds. Chickens, Ducks, Geese, Turkeys, Guinea, Hares, Dogs. Stock for sale. Write your wants. Catalog free. H. A. Souder, Box 94, Sellersville, Pa.

Baby Chicks Good big healthy chicks of show room quality at low prices. Write for particulars. Catalogue free. Sycamore Hatchery, Sycamore, Ohio.

Barred Rock Chicks. Booking orders now for early hatches, 100% safe delivery. Circulars and prices on application. H. H. Pierce, Jerome, Mich.

Cockerels and Hens: Leghorns, Minorcas, Reds, Rocks, Orpingtons, Wyandottes, Houdans. Tyron Poultry Farm, Fenton, Mich.

CHICKS

for 1921 Bred-to-Lay S. C. W. Leghorns. Booking orders now for early hatches. \$10.50 per 50, \$20 per 100, \$35 per 500. Safe delivery postage paid. SUNNYBROOK POULTRY FARMS, Hillsdale, Mich.

CHICKS Pure-bred S. C. White and Brown Leghorns, from heavy laying strains. Parcels post brings them up to your door. Safe arrival guaranteed. \$15.25 per 100 post paid. Catalogue free. Royal Hatchery, R. 2, Zeeland, Mich.

Fowler's Buff Rocks Cockerels, hens and pullets. Write for prices. R. B. FOWLER, Hartford, Mich.

CHICKS! Standard bred White Leghorns and Brown Leghorns. Bred to lay, large white eggs. 50 chicks \$7.50; 100, \$15.00 and 500, \$72.50. Safe arrival guaranteed. Parcel post brings them to your door. Catalogue free. Wolverine Hatchery, R. 2, Zeeland, Mich.

CHICKS Rose Comb Reds 20c each. From farm range flock bred for eggs and color. Now booking orders. Write for particulars. GORET BROS., Corunna, Mich.

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For Sale Barred Rock Cockerels. Ringlet strain, large type, nicely barred \$3.50 each or 3 for \$10. EARL MURPHY, Britton, Mich. Macon Phone.

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JOHN'S Big Beautiful Barred Rocks are hen hatched quick growers, good layers, sold on approval \$4 to \$8. Circulars photos. John Northon, Clare, Mich.

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BABY CHICKS, bred from stock with high egg records and show room quality. None better for filling the egg basket. Catalogue free. Write for particulars. Oh's White Leghorn Farms, Marion, Ohio

Rhode Island Whites If you have ever said there is no money in raising poultry try the R. I. White, stock for sale, order ahead. H. H. JUMP, R. 5, Jackson, Mich.

S. C. WHITE LEGHORN CHICKS Send for Catalog. SNOWFLAKE POULTRY FARM, Route 1, Grand Rapids, Michigan.

WHITTAKER'S R. I. REDS Michigan's Color and Egg Strain. Both Combs. Cockerels, Chicks and Eggs. Write for free catalog. INTERLAKES FARM, Box 39, Lawrence, Mich.

White Wyandottes 15 pullets at \$2.50 each. 1 pen \$15.00. Cockerels from flock with 207 egg average \$5.00 and \$8.00 each. Eggs for hatching \$2.00 per 15. FRANK DeLONG, R. 3, Three Rivers, Mich.

White Chinese Geese, White Pekin Ducks, R. C. Br. Leghorns. Order early. Mrs. CLAUDIA BETTS, Hillsdale, Mich.

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Bronze, Narragansett, White Holland, Black and Bourbon Red turkeys from the finest flocks in the country. Write for prices to close them out. F. A. CLARK, R. 5, Xenia, Ohio.

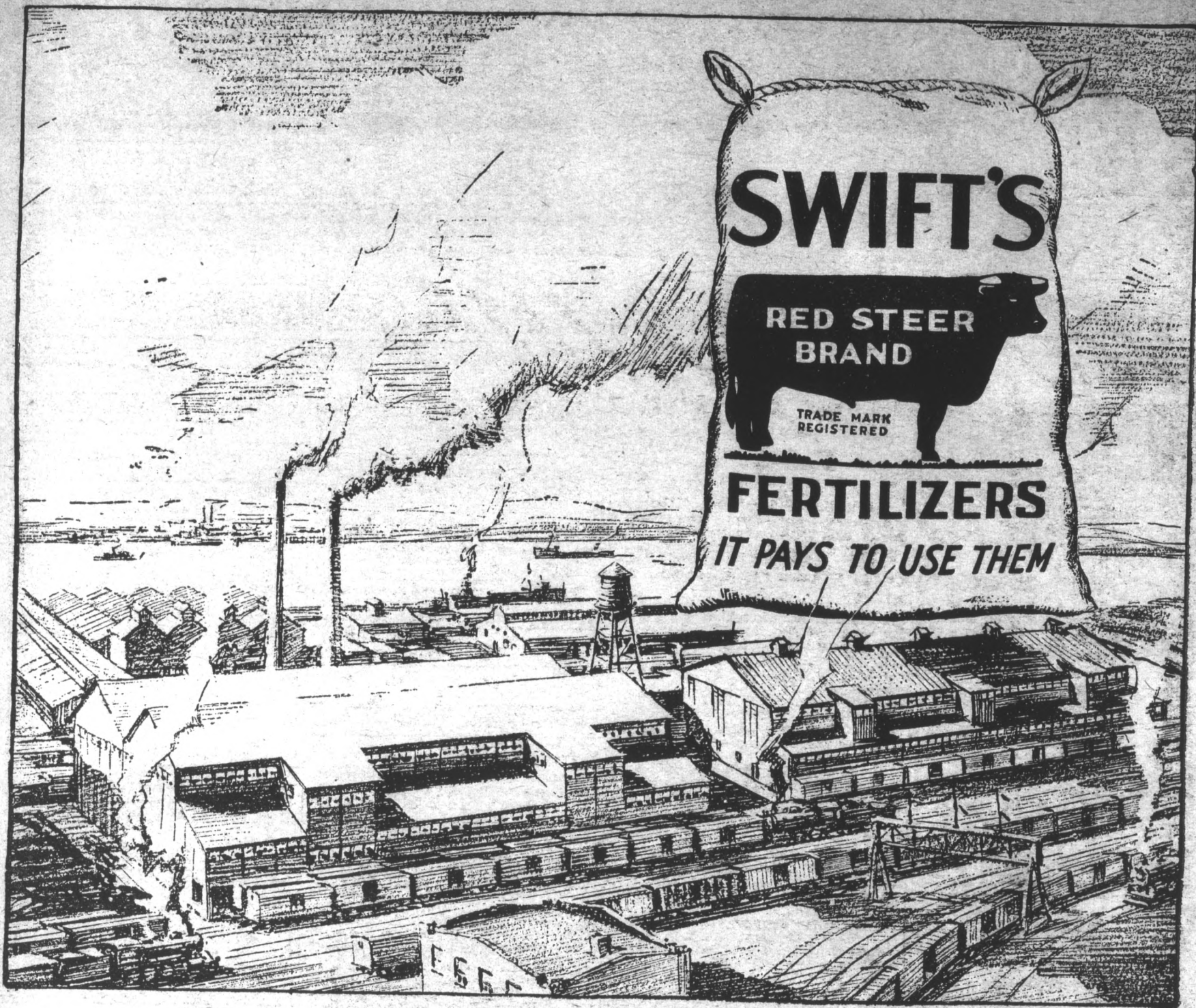
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Registered Ramboulets ewes and rams. Lambs and ram lambs. Prices reasonable. Write for particulars. Frank Oliver, R. 2, Saline, Mich.

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