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VOLUME CLVIII. NUMBER SEVEN

DETROIT, FEBRUARY 18, 1922

CURRENT COMMENT

THE MICHIGAN FARMER SAYS:

Don't swat the rat, finish him.

Better disturb the rule than spoil the boy.

Where timothy drives out clover there are many callers at the poor house.

But few subsoil plows have ever been worn out because owners have discovered that the work is done cheaper and better by deep rooted plants.

'Tis the evening schedule in the farm home even more than the day's labor, that holds the young people to, or drives them from the parental roof.

Marketing Bill Passed

WITH but a single dissenting vote, the Capper-Volstead bill, the object and intent of which are familiar to our readers, was passed by the senate of the United States last week. The bill then went to a conference committee of the two houses of congress for the adjustment of minor differences in the wording of the measure as it passed the two bodies. The report of this committee has been adopted and the measure passed on to the President whose prompt approval is expected in view of his indorsement of the principle involved in his message to the congress.

The passing of this bill will remove the last possible legal obstacle to the economic organization of farmers for the orderly marketing of their products. Its passage also marks a governmental recognition of the business needs of the country's great basic industry which is epochal in character, and for which the farmers of the country are indebted not only to the authors of this bill but as well to the other senators and representatives who are identified with the so-called "Agricultural Bloc" which has had a most important and constantly growing influence in national legislation during recent months.

The agricultural bloc is made up of something like a hundred members of the house and some twenty-two members of the senate, largely from the west and south where agriculture is the predominant industry. It has been assailed by some spokesmen of other interests and by statesmen of the "old school" as a pernicious influence in national government as a combination

representing a single industry. This is a natural attitude on the part of influences which have been dominant at Washington and the exponents of which naturally view with alarm the waning of that influence which they feel marks the decadence of the nation and of the stability of its government.

It is a safe assertion that few farmers have this viewpoint, but the editor was surprised not long ago to hear the publisher of a mid-western farm paper in a public address express his disapproval of any kind of a bloc in congress, whether of agriculture, labor, capital or what not. Of course, this publisher was not speaking to an audience of farmers, but some farmers were present, as is likely to be the case in almost any audience gathered anywhere these days. He is to be congratulated on having the courage of his convictions, but not, we believe, on the nature of his conclusions. Apparently he is one of those who fail to appreciate that class legislation is not the aim and object of the agricultural bloc, but rather to insure to the farmers of the country the same rights and privileges which are enjoyed by the great corporations engaged in other lines of business, and to aid in the stabilization of general business conditions by giving the individuals engaged in the great basic industry of agriculture, which is the foundation of national prosperity, a fair opportunity to work out their own economic problems by collective as well as individual methods. As a means to the end of bringing this point out clearly we will publish in a future issue a clear statement of the reasons for the agricultural bloc by one of its leading members.

Farmers' Credit Problems

FARM credits is a much discussed topic at the present time in national legislative circles as well as among farmers.

The important result so far secured is the provision for the appointment of a farmer on the federal reserve board. There is no question that the establishment of the federal reserve system was a wise provision and one that enabled the country to withstand the financial stress of the war period much more successfully than would have been possible under the old order of things under which the banks of the country were not affiliated together in a working and workable system. But while the system was a great improvement from the standpoint of national financing, it has naturally had its defects as is the case with all organizations in which the human element figures. The joint agricultural commission of congress has, after an exhaustive investigation, charged responsibility for the extent of the business depression through which the country is passing to faulty policies of the federal reserve board. The giving of agricultural representation on this board, together with the probable enactment of legislation calculated to care for the legitimate short-time credit needs of the farmers of the country through existing agencies gives promise of the earliest possible solution of farmers' short-time credit problems, in-so-far as they can be solved through government action.

But the real solution of these problems must, in the final analysis, lie with the farmers themselves after adequate machinery has been provided. Two factors must ever enter into this problem, viz., reasonable security, coupled with low moral hazard, and the prompt meeting of obligations on the part of the borrower. To avail himself of the full advantage of better credit facilities the farmer must be a good business man. The purpose or investment for which the funds are borrowed must be sound from a business standpoint and insure the prob-

able ability to repay the loan on maturity. Credit is a valuable asset in any business if rightly used. Hence the desirability of every farmer making a more careful study and analysis of his business and its possibilities so as to be the better prepared to use improved credit possibilities wisely when they may become available.

Acres of Diamonds

WE have been informed, entertained and enthused by Russell Conway's famous lecture on the above subject. Occasionally illustrations which might be worthy of a place in the long list of stirring experiences used by this noted lecturer to impress his audiences with the wealth of opportunity about us, are met with. In this connection the story of Edgar Hart is interesting.

Mr. Hart is a small breeder of Jersey cattle. From year to year he lived on with things moving along in the common groove of the ordinary farm life. Prices were up and down, margins narrow or completely eliminated and he did his share of complaining against the fates. One day, however, he was persuaded to join a cow-testing association. The results put new life into Mr. Hart and now he has taken quite a different view of life. He has the same farm, the same family and the same breeding of cattle; but he has a new grip on things, and it all came about through the finding of the cow-testing association.

This work brought to this man the fact that he had some unusually high-producing cattle. A senior yearling broke a state record with 473.67 pounds of fat; another senior three-year-old produced 650 pounds of fat, while a third three-year-old gave 530 pounds of fat. Besides he found that he owned two aged cows that produced over 400 pounds of fat each during the year. Mr. Hart did not know what he had in his herd until he went prospecting among his cows. Cow-testing work is for culling the boarders, but it also serves a more important purpose, that of finding the good cows for building a superior herd for future business.

Your Agricultural Attitude

TROUBLE is the cheapest commodity on the market at the present time. Everybody has an over-supply of it. But money is scarcer than the proverbial hen's teeth.

However, two years ago money was easy getting and a fellow was laughed at if he tried to borrow trouble. Such attitudes of mind are the result of mob psychology which, in other words, means, we do it because everybody else does it. Such thoughts often seem justified, but they are not.

The man who dares to look through the present and to think or do different than the crowd, is scoffed at at the time, but frequently becomes famous in the future because of the satisfactory outcome of his attitude.

Big business men have made fortunes by buying when everybody is selling and selling when everybody is buying. So can we profit if we become optimistic when everybody else is pessimistic and pessimistic when others are all optimistic.

Your present agricultural attitude is of vast importance to you and others. If you sit and bemoan the state of affairs you certainly are not doing much to better conditions. Even though your potatoes failed, your fruit trees did not bear and your corn brings next to nothing, do not plant less, feed less or spray less. But, rather, plant as much, feed as much and spray as much as ever. Have faith that the near future promises improved conditions for the farmer.

We cannot urge you too strongly to

farm as nearly normal as possible this year. It does not pay to lay down on the job.

Speed Waterways Project

IS there a real sound argument against the construction of the St. Lawrence sea-way route? If so, it was not brought to light at the meeting of delegates to the waterways conference held in Detroit last week. On the other hand, a hundred and one advantages seem certain to accrue to the seventeen or more states having business that would be making available the waters of the great lakes to sea-going craft.

But there is opposition to the project. It comes from sections with shipping interests that are threatened by having traffic diverted to another channel. This opposition is working hard but noiselessly to maintain its grip on the major part of the commerce of the continent. Their work will tell regardless of the advantages which the project offers the great commercial agricultural section of America, unless the friends of the project continue to urge upon the attention of the public and the federal government the need of carrying out the plans with reasonable dispatch.

Operatin' vs. Co-operatin'

SEEING as I wasn't asked to tell my views on this subject at the Round-up, I will hereby take the bull by the horns, so to speak, for the common good and to relieve what you call my mental distress.

Now, these words what looks a lot alike ain't even brothers. One is what the other ain't. For inst., a fellow operates on the board of trade, or a gamblin' joint, a commission house, and etc. People what operates mostly

works on the golden principle what made Johnnie Pile-o-Rocks famous as the man what should pay a large income tax but don't. This great help for operatin' endeavor is



"What's mine is mine plus what you got now but won't have soon." That is what cooperashun ain't.

And, for inst., when the doctors operate they takes machinery out of your insides and money out of your pocket. Now, if they would pay you a respectable price for your inside workin's they is so anxious to get, I would call it cooperashun.

Cooperashun has got to keep good company with honesty to be a success. While operatin' can make love to dishonesty any time it wants to and get away with it.

Now, a fellow can't cooperate with hisself. The front part of the word means company, or more than one. So when fellows get so they ain't afraid of each other, they can get together and start cooperatin'.

By cooperatin' you get more, the cooperashun manager gets more and the buyer of cooperators gets more. The writer of the dicshunary don't say so, but cooperashun means, "everybody gets more."

For inst., cooperatin' with your farm is a get-more proposition. When the farm gives you a multiplicashun of your seed and you give it nothin', you're operatin' the farm and it don't pay. But if you show your gratitude for the services rendered by treatin' it to manure, and etc., you're cooperatin' with the farm. It feels so good it gives you more. It gets more, you get more.

In cooperatin' you got to appreciate your fellow men. In operatin' you deprecate your fellow men.

HY SYCKLE.

Jones Helps Solve Farm Credit

By Edwy B. Reid

JOHN JONES was worth \$40,000 but he was dead broke! Last summer John drove his dust covered auto up to the curb in front of a grocery store in a small country town, stepped on the accelerator and cut off the spark, climbed out of the car and felt in his pockets for some object. With heavy feet and bent shoulders he proceeded slowly up the street, his body inclined slightly forward as he walked, in anticipation of his steps, his soft hat pulled down sheltering his eyes. He heeded none of his friends as he met them but walked as a man who was oblivious to all that was going on about him. Two blocks took him to the City Bank with the brownstone front, which he entered and walked quietly into the president's sanctum.

"Good morning, Jones," greeted President Smith, "How's the corn crop? Are we going to have another bumper crop to add to the heavy carry-over?"

Jones did not bother to reply. He felt in his pockets and pulled out a key. This he handed to the banker saying: "I've brought this in to you."

The banker took it and examined it closely. "I don't seem to remember this key," said President Smith. "Where did you get it?"

"No, you probably don't recognize it. That is the key to the house on my farm. When you called my loan last month you got a farm. I can't pay the loan. I told you so at the time you called it. Now the money's due and you can have the farm. I'm busted, if you make me pay now. That's all there is to it, so good-bye."

"Wait a minute, Jones," exclaimed the still-faced president. "Let's talk over this matter. Won't you take that chair?"

"There isn't much to talk over, Smith; you lent me the money, you ought to know how I stand. I can't see so very much difference between me and hundreds of other farmers hereabouts except that I added a section to my farm when prices were at their highest. That pretty near strapped me. Besides, that fellow Green you sent me to, charged me eight per cent interest and a ten per cent com-



mission on top of that for a five-year mortgage. I couldn't afford to pay that amount of interest on any great part of my land so I drew out all of the money I had here in the bank in order not to have to borrow so much. Then I came to you, as you know, and braced you for a loan to carry me through till I sold the crop. You took my note for three months and now you have called it."

"Yes, I had to," broke in the banker.

"But, you see, I expected you to renew it at least twice," continued Jones. "You knew when you let me have the money that three months would not begin to see me through. I knew your system, Smith, but I was willing to pay, and pay through the nose, this once, just as you have made all of these poor devils around here pay for years."

"Wait a minute, Jones. Don't get excited," interposed Smith with a soothing gesture.

"I'm all wound up now, and I'm going to get it out of my system. I've

been watching you stiff-faced bankers for some time, and so have a lot of other farmers and we know that you are playing a smooth game. The section I bought last winter isn't worth as much as it was, but it's still worth more than a whole row of these wooden stores in this burg, and I wouldn't trade my old farm for this bank. Just because we got our tail in the crack and can't get ready cash we're not going to let you shut the door. You lent me money for three months so I could buy a little fertilizer and pay off the boys during the plowing and planting season. You charged me ten per cent, and I left part of the money in the bank until I needed it. You made money out of that balance. Then you would have charged me commission to

renew the loan and again asked me to leave part of the money with you until I needed it. You shave-tails will get what's coming to you sometime, and it won't be long coming."

"It's a pity, Jones, you were not born a banker instead of a farmer," commented Smith. "You undoubtedly would have had better luck," added the banker between cigar puffs, as he settled back with an air of amused self-satisfaction.

"I think you are right, Smith, as far as this bank is concerned," retorted Jones as the red danger signals began to creep up the sides and back of his neck and spread to his ears.

"I may have been a sucker to buy that one hundred and sixty acres, adjoining me, which I have always want-



Good Guessing Cuts Work

In Determining Dairy Costs

By H. M. Eliot

IN the feeding of dairy cattle, the largest single cost is the feed cost, and the dairy business is conducted in the dark unless a record of this feed is kept. Many farmers feed their crops to hogs, sheep, or steers and thus do their marketing through these animals, while other farmers haul the crops to market and sell feed instead of animals. The question of which is the most profitable of these two methods of marketing can be answered only by feed records and without them it is impossible to form even a close estimate.

Feeding all classes of stock out of a common crib or bin, but weighing or measuring the daily ration fed to each class, is a common way of keeping a record of feed. This may be called the ration method. Another way is to have separate bins out of which each class of stock is fed, and to measure the feed as it is put into these bins. This may be called the bin method.

The first method is ordinarily used for hays and silage and the second for grains, while a combination of the two will fit any set of farm buildings. "I have a bin in my chicken coop, and I keep track of the feed as we carry it over there," said a farm woman in Wayne county, "so we know exactly how much we feed our hens."

Another farmer has an oat bin in his horse barn and feeds nothing but his horses out of it. Furthermore, silage is mostly fed to dairy cattle, while most of the feeds bought are intended for a single class of stock and can, therefore, usually be charged directly to that class.

Where this simple method will not apply the ration method will be found practically as easy. A careful feeder will figure his daily rations closely. And he will use a ration that is well balanced, and will make it up from the most economical feeds on the market. When he has done this all that is needed from a feed record standpoint is to multiply this daily ration by the

number of days it is fed without any change, and then to compute the total cost of each feed in the ration.

Figuring feed rations and records furnish some good practice in farm arithmetic. If you have a boy or a girl in the family, have them figure rations, too. They will find them fine practice in multiplication and addition. Assume for the purpose of the problems that the same ration was fed on each of the thirty-one days of January, and figure the price of oats at forty-one cents and corn at ninety-eight cents a bushel if you prefer that method to the price per ton method.

One more point merits consideration. It is the question of weighing and estimating the weights of feed. One will need to weigh or measure a ration a few times until one becomes accustomed to estimating its measure or weight, but it is surprising how soon the eye becomes trained to measure with practical exactness.

An illustration will drive this point home, and similar experiences will occur to every reader:

Two college students were working in the college dairy barn, and were instructed to weigh the feed fed to each cow. After they had done this for a time one of the students began to argue that it was useless to carefully weigh the feed each time, and to prove his point he turned the face of the scales away from him and instructed the other student to record the weights as he measured out the grain and fed each cow, and without knowing what the scales were recording he fed some twenty odd cows and gave each one the right amount as recorded by the student watching the scales. This feat can be duplicated by any farmer with only a little practice.

The matter of feed records is therefore simple enough and requires little enough of time, and, furthermore, to feed stock without measuring the feed is like paying out money without counting it.

ed, but I haven't a bank full of notes taken on land valued at more than double what it can pay interest and a living on. You got stuck, and every one knows it. Those smooth guys from the city who came through here, got a lot of options on farms, made a few wash sales at high prices and stuck you right. You and that boob editor of the Clarion jumped right in and helped them with their game. The Clarion wrote up the sales in high glee; then a few real sales were made at higher prices, and we were on our way. We might believe you were a party to this deal if your own bank wasn't loaded to the vault doors with that paper. Maybe you don't own it and your customers do. Since you are such a shark on finance you should have known that game by this time. Truly, I think we farmers will have to keep you bankers away from the county fair or some faker will get you into a shell game. Did you ever stop to think that about nine-tenths of the farms sold at near peak prices were bought by town and city speculators. And yet you white-shirt fellows with poker faces who sit behind mahogany desks call us hicks and rubes. You think you can turn on and off at will the stream of credit which should flow from the great reservoir of this country to the farms. The trouble with too many of you is that you treat money as a commodity to be bought and sold instead of a medium of exchange. You try to pinch a few feathers from the breast of every golden eagle that passes through your fingers so as to line your own nest."

"Hold on there, Jones; you usually are a pretty sane individual," interrupted the banker, patting the farmer on the shoulder. "Let me ask you a question."

"All right, shoot!" snapped out Jones, edging out of reach of the friendly hand on his shoulder.

"You farmers are farming to make a living aren't you? Well, that's what we bankers are doing when we undertake to chaperon the money that is deposited in our banks. We have to be paid for our services just as you are. Outside of our capital we guarantee



interest upon our deposits and we have to invest the money safely and yet make it yield enough to pay for services and the interest. Besides, most of the money in this bank is subject to call upon short notice or instantly. We would be insolvent in a short time if we lent any considerable proportion of our money for longer than three months. That's why we only lend to you farmers for a short period and renew your notes. We usually can renew them, but now, as you know, we are over-extended, over-loaned, the same as practically every bank in this section, and the big city bank from which we borrow or rediscount has borrowed up to its limit with the Federal Reserve Bank."

"What I'm talking about," interjected Jones, "is what can be done now. I know about your system. My land and buildings, deducting the mortgage on the section I bought, are worth \$40,000 if they are worth a Buffalo nickel, yet I can't get a loan from this bank. I'd go to the Federal Farm

(Continued on next page.)

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Late Cloverland News

EXPORTS OF FARM PRODUCTS.

INVESTIGATIONS have been carried on by the Upper Peninsula Development Bureau to ascertain the shipments of farm products out of the various counties of the upper peninsula during the past season. From the returns received it appears that Chippewa county shipped 1,638 carloads of hay, three carloads of potatoes, four cars of oats, two cars of sheep, five of cattle, and one car of seed peas. Alger county shipped one car of sheep, one of cattle and twelve of potatoes. Marquette county shipped one carload of cattle and fifteen of potatoes. Schoolcraft county three carloads of cattle and twenty-five of potatoes. Iron county shipped two carloads of sheep, nine of cattle and one of potatoes. Menominee county shipped three carloads of sheep, ten of cattle and fifty of potatoes.

RECOMMENDATIONS FOR THE COPPER COUNTRY.

THE industrial report contains a good survey of general agricultural conditions in the Keweenaw Peninsula, which comprises the copper country, and has a very favorable opinion of its possibilities. It notes that the growing season between the frosts at Houghton is 153 days, and that rainfall possibilities of the district through a comparison with several northern counties of Minnesota in the same latitude, which are among the leading dairy counties of that great dairy state. A study of Minnesota conditions leads it to believe that the cooperative

creameries are the most profitable.

Fruit raising, especially on the western slopes of the copper range, where the effect of the lake is most definitely secured, the report considers very promising—as it undoubtedly is—and notes that this will call for a cannery on Portage Lake, to utilize the local surplus output. Such a cannery can be erected for some \$200,000. There is also an abundant supply of wild berries that could be worked up. The delicious, but little known, thimbleberry, or salmonberry, which grows in great profusion here, makes an excellent jam, which the report thinks, can obtain a national market. Undoubtedly, being surrounded on three sides by Lake Superior, which tempers the atmosphere, the copper district is favorably situated for fruit raising. While the report is based upon material that is familiar to students of northern agriculture, it will be convenient to have this material in such accessible form.

INDUSTRIAL SURVEY OF CLOVERLAND.

IN the depressed condition of the copper industry, the copper country of Michigan has been seriously thinking of other lines of business that can supplement copper mining and related industries. To assist the business leaders of the district in investigating this problem, the boards of supervisors of Houghton, Keweenaw and Baraga counties, last year, engaged the services of the Stevenson Corporation of New York, to make an industrial survey of the region and suggest new enterprises in which labor and capital

could be employed. The report of the Stevenson Corporation has recently been published by the joint action of the commercial clubs of the copper country. It makes a substantial pamphlet of one hundred and fifty pages.

The report is notable, among other things, for the attention which is given to the possibility of greater agricultural development. Considerable space is given to the sugar-beet industry, including the raising of beets by the farmers and the manufacturers of beet sugar on Portage Lake. The report points out that the longer summer day and cooler temperatures with an abundant rainfall, of this latitude and section, are very favorable to beet culture and the sugar content of the beet, which here considerably exceeds the average for the beet district farther to the southward.

There is a good labor supply, it points out—the Finnish farmers being well suited to beet growing. The excellent roads favor the marketing of the crop, making possible an economical load of three tons or more. Soil and topographical conditions, especially near and to the southward of Portage Lake, are very good. A sugar factory located on the shores of Portage Lake, which has a ship channel to Lake Superior, would be able to take advantage of cheap water transportation, and although this is not referred to in the report—when the St. Lawrence shipway is built, it will be possible to bring in raw cane sugar from Cuba and other outside production areas, to be refined in northern Michigan factories, also by this great all-water route. The limestone used in purifying the sugar will make a good soil corrective and—although the report does not mention it—there is an abundant supply of nearly pure limestone in the eastern upper peninsula readily transportable to the copper country. The beet tops and pulp will serve the local live stock industry as stock forage.

The report considers the matter of crop rotation, pointing out that potatoes, alfalfa and live stock raising will fit in well with the beet industry. It estimates that, to maintain a run of one hundred days for a 500-ton factory beets should be grown on some 335 farms, allowing a beet acreage proportional to other crops on the farm. It estimates that \$750,000 will be required to erect the factory. In short, the corporation sees no good reason why a beet industry cannot be established in this most northerly section of the state; and in this opinion it conforms to good expert opinion hitherto expressed.

TELEPHONE SERVICE EXTENDED.

FARMERS of the Waucedah district, Dickinson county, have secured telephone service through the establishment of some eleven miles of new line, on which wires will be strung in the spring by the Michigan State Telephone Company. Ten residents of Waucedah and five farmers in the vicinity have also secured electric power service. Individual electric plants have been tried but without satisfactory results, it is stated.

PREPARING FOR TOURISTS.

THE Upper Peninsula Development Bureau is securing information regarding camp sites and springs for the preparation of a new map of the district which is being prepared for the use of tourists and travelers in the upper peninsula.



Wednesday, February 8.

OVER \$1,000,000 in orders were received by the Lincoln Motor Company on the first day of its opening by Mr. Ford.—The Jackson County Audubon Society plans to establish a fifteen thousand acre bird reserve.—Dr. Adolph Lorenz, the great bloodless surgeon, will visit Detroit in March.

Thursday, February 9.

CHIEF Inspector of Mines Seward Button has called a conference to discuss the means of extinguishing a fire which has been burning in a coal mine in Pennsylvania for the last five years.—A nation-wide farmer-labor political movement will be launched, it is reported, at a labor-agricultural conference in Chicago, on February 20.—Mme. Marie Curie, co-discoverer of radium, is the first woman to be elected a member of the French Academy of Medicine.

Friday, February 10.

GERMANY paid \$31,000,000 gold marks on war debt to the allied reparation commission.—Secretary of State Hughes goes to Bermuda Isles for a rest after his peace conference work.—Fifteen hundred inhabitants of Silverton in southwestern Colorado face starvation because of being cut off from the rest of the world by heavy snow slides.—There is rioting between the Ulsters and advocates of the Irish Republic at Belfast.

Saturday, February 11.

THE American navy will be cut even lower than the peace treaty makes necessary to set an example to the rest of the world.—The Capper-Volstead cooperative marketing bill

passed the senate by a vote of fifty-eight to one.—Warden Hulburt, of the Jackson prison, says sixty-six per cent of the crime in Detroit is due to high rents and high cost of living.—"Big Bill" Thomson, mayor of Chicago, hires a Methodist minister as law enforcement commissioner.

Sunday, February 12.

IT costs 20,000 rubles to have a collar laundered in Russia.—Fifteen hundred government employees will be laid off as a result of the peace conference.—The Columbia Graphophone Company has gone into the receivers' hands with liabilities of \$20,000,000.—D. D. Aitken, the prominent Holstein breeder of Flint, Mich., is honored by the University of Wisconsin for his worth-while services in dairying.

Monday, February 13.

THE United States and Japan get equal rights in the Isle of Yap, according to a treaty recently signed.—President Harding vetoes taxation as a means of raising soldiers' bonus.—David Sturgis, aged ninety-two, the first white boy born at Sturgis, Mich., died recently at Yuma, Arizona.—Pope Pius XI was coronated Sunday.—Thos. A. Edison celebrated his seventy-fifth birthday last Saturday.

Tuesday, February 14.

THOUSANDS of churches and other organizations will celebrate Father and Son Week.—W. R. Walton, entomologist of the United States Department of Agriculture, says the Hessian fly is scarce in America.—Twenty-one thousand textile workers in New England threaten to strike because of a twenty per cent wage cut.

Value of Orchard Fertilization

Recent Investigations Show that Fertilizing Orchards Pays

THE subject of orchard fertilization received more attention than any other at the annual meeting of the Michigan Horticultural Society, held in Grand Rapids last December. So important is it now regarded that experts in horticultural research at the M. A. C. experiment station are spending more than half their time in fertilization problems. The state's total fruit production promises to be greatly increased once orchard growers realize the value of assisting nature in this respect.

Research men began to experiment with orchard soils a few years ago. In the beginning they believed that by analyzing the soil for its chemical content and by determining the chemical content of the trees, the elements and amounts needed might be arrived at. However, it was soon found that only by actual test with elements combined in various degrees could reliable conclusions be reached.

These experiments have been continued until it is now known that nitrogen is the element most needed by fruit trees in Michigan. This is in contrast to the practice in general agriculture, where phosphorus is found to be lacking more often than nitrogen.

But whereas the nitrogen needed for ordinary farming may be easily added to the soil by growing leguminous plants and plowing them under, the supply for fruit trees thus far has not been sufficient when leguminous cover crops have been depended upon. Therefore nitrates and ammonia compounds in commercial fertilizers seem to be the most feasible.

Experiments for demonstration purposes are now being made under the auspices of M. A. C. at orchards in every fruit growing section in Michigan. Apples, peaches, cherries, plums, pears, grapes, raspberries, dewberries and strawberries all are being grown on test plots supplied with fertilizer. The grape experiments at Paw Paw are most complete and extensive.

Not sufficient time has elapsed since the application of fertilizer to the small fruits to indicate results, though strawberries in Van Buren county have been greatly benefited. The tree fruits, however, have shown marked increases in yield. One apple experiment showed the following results: No fertilizer, 1.2 bushels per tree; nitrate of soda, 4.2 bushels; sulphate of ammonia, 4.9; acid phosphate, 4.3; complete (nitrogen, phosphorus and

potassium), 8.4; nitrate and phosphorus combined, 6.2. Professor Roy E. Marshall of the M. A. C. Horticultural Department is of the opinion that in the long run nitrogen in conjunction

with some phosphorus seems to give the most benefit. The 6.2 bushels listed above resulted after only one year and in comparison may be considered as the most striking of all.—H.

That Strawberry Patch

By Loyal R. Jones

THE accompanying illustration is of a strawberry patch belonging to Mr. F. J. Smith, who lives in the village of Okemos a few miles east of the Michigan Agricultural College, East Lansing, Michigan. Mr. Smith's principal source of income is from his gardening efforts. This abundant display of vigorous, healthy plants is proof of what can be done with strawberry plants the first summer, as well as showing the skill of Mr. Smith.

The plants, of the Dunlap variety, were set out in the middle of May, 1921, putting a plant every twelve inches in rows four feet apart. The black loamy sand, fairly rich in fertilizer, gave the plants a quick start. The few weeds that started were kept down, thus giving the plants the full benefit of the richness of the soil.

By September first the ground was completely covered with plants. At that time Mr. Smith went through with a spade, cutting off the runners and pulling up the plants that were filling up the space between the rows. This gives a nicer, cleaner-cut appearance to the bed besides making it much easier in picking time, to pick systematically and leave no corners or spots unpicked, and yet no spot need be looked over twice.

When this photograph was taken,

the twenty-fourth of October, one would hardly think the plants had only been set out the spring preceding.

Farmers often think that strawberries take too much time to pay them to bother; but if set out where weeds and grass has been kept down for a year or two previous, it will be found that, after setting plants out, they will take no more care than most other garden crops. When the first crop is picked, one will feel amply rewarded for his efforts.

Besides strawberries, Mr. Smith raises other fruits and vegetables. From a small garden, about one-fourth of an acre near his home, he raised \$258 worth of potatoes, tomatoes, beets, carrots, lettuce and gladiolas. From a bed thirty-five feet square he raised \$24 worth of gladiolas. His lettuce brought forty-five and three-fourths of a cent per square yard.

In answer to the question as to the correct phase of the moon, etc., to plant in, he said:

All the whims I have is to have the ground well-manured, and well-fitted; then plant the garden when the weather permits. I never pay any attention to moons, stars, or anything of that nature, and they never bother me. The ground is, of course, rather low and well-fitted for truck gardening.



Mr. Smith Finds that Strawberries Pay.

Starting a Community Church

By N. A. McCune

A CORRESPONDENT writes that there are two churches in a certain community, and no services in either church. What to do? Here ought to be an opening for some good constructive work, and one well-organized church. First, don't be discouraged. Talk church, talk a union church, talk a good strong church, talk supporting the church. Get the officials of the two churches to come together and talk it over.

It is well often to drop the present denominations entirely, and unite on a third that has never been in the community. That is fair to all the parties concerned. Sometimes that is not necessary, however. There is no hard or fast rule to go by. But it is best to be connected up with some denominational organization, as it is easier to get a good pastor that way. Besides, the church has the benefit of the general board of secretaries who will come once in a while, if asked to do so, and give the church a boost. And

the general offices are always willing to answer questions and give good advice on troublesome questions. They will also supply literature, which is very important.

Understand, all this means that a few people must interest themselves in this matter and keep agitating it. The more influential these leaders are, and the more respected, so much greater the chances of success. At the same time, people who are not influential who keep at it and feel the call of duty, can accomplish the seemingly impossible.

When it seems feasible, and sentiment is somewhat aroused, a meeting should be called to discuss the whole matter. Frequently a better way is to have a group of the interested ones meet at a private house some evening and talk it over. Then have another meeting in another neighborhood, and finally have the larger meeting at one

of the churches or in the town hall.

Now comes the biggest item of all, the preacher. With the preacher the whole matter stands or falls. Better wait and get as good a man as possible, than to get a poor one in a hurry. It is not always necessary to have all the organization arrangements perfected before the minister is called. If he is the right type of man, he will guide the organizing activities in the right direction. If the new church chooses to become affiliated with a certain denomination, by writing to the central office, it is often possible to get on the track of a good minister. Before going far on the preacher-hunt, however, it should be clearly ascertained how much the community will pay him the first year. Not how much it can pay (most communities can pay pretty well) but how much it will pay. After the new church has gotten under way, the whole community may be right glad that the old churches died a natural death.—N. A. M.



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832	8	32	12	6.2	.39 1/2
8320	8	32	6 1/2	7.7	.44 1/2
939	9	39	12	6.9	.41 1/2
9390	9	39	6 1/2	7.8	.46
1047	10	47	12	9.7	.57 1/2
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This is to notify you that there will be a special meeting of the members of the Michigan Mutual Windstorm Insurance Company held at the Home Office at Hastings, Michigan, on Friday, March third, for the purpose of voting on the proposed amendment of Article 3 of the charter, as proposed by the Board of Directors on February 3rd, 1922.—Adv.



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EXPOSING POISONS.

A man in this neighborhood is scattering strychnine around over the country for fox. Five or six dogs have been poisoned, also several milch cows. What is the law in regard to putting out poison and what is the penalty? What redress has the owner of a poisoned dog?—G. H. C.

Compiled Laws (1915 Sec. 15353, provides that it shall be unlawful for any person to expose any poisonous substance where it is liable to be eaten by horses, cattle, dogs, or animals of other kinds; penalty not more than three months or fine of \$100 or both. Provided that it shall not be unlawful for any person to expose such poisons on his own premises outside of an incorporated city or village.—R.

STATUTE OF LIMITATIONS.

A sells a farm to B, taking a note secured by a mortgage on the farm, the mortgage to run ten years, B to pay interest and not less than \$250 a year. A has not received any principal and there is interest now due. The ten years are up next April. If A forecloses and sells the farm and it doesn't bring enough to satisfy the claim, can A sue and recover the balance on the note, B being possessor of other farm land?—A. J. H.

If interest has been paid within six years the debt is not outlawed, and the debtor is personally liable.—J. R. R.

CHattel MORTGAGE.

A has a chattel mortgage on B's personal property. When it becomes due, can A renew it without B's knowledge?—X. Y. Z.

So far as the mortgagor is concerned there is no need to renew. The claim is good until it outlaws at the end of six years from the time it is payable. But as against persons purchasing without knowledge of the mortgage, it is necessary for the mortgage, for his protection to file the renewal affidavit with the town clerk every year. This must be done thirty days before the year expires.—J. R. R.

AVOIDING CONTRACT.

Having a contract for a farm whereby party of the first part accepts the house and six lots as part first payment, value \$3,732.55 and \$1,308.45 due February 1, 1922, also personal property thereon, including growing crops, said personal property not to be sold without consent of party of first part (which I am not doing). When trade was made party of first part was to forfeit his sugar beet contract for which he has been asked several times and each time could not find it. The beets have been harvested and check is waiting its proper owner at the sugar beet company. How am I going to get my sugar beet money, as the contract expires February 1, at which time I will have to move as a tenant, as he will only go the thirty-day grace, but that would do me no good. By letting him have my property and dumping him on his ground, I would not be losing anything.—G. S.

Unless the other party to the trade will sign up to a settlement or rescission, the only really safe way is to sue him in chancery for cancellation. Mere declaration of rescission by one party does not make a rescission without the consent of the other.—J. R. R.

RATIONS FOR VEAL CALVES.

I have a few calves which I expect to raise for veal and would like to know if it would pay to feed a grain ration with whole milk and what is best to feed.—Subscriber.

A mixture of corn, oats and wheat bran, equal parts by weight, the corn and oats ground at the start, but cracked or whole as soon as the calves

learn to eat it, makes a good addition to whole milk for calves. However, it is doubtful if they are fed liberally on whole milk whether they will eat much grain before they reach a profitable marketable age. The veal reaching the greatest weight at six weeks of age is usually the most profitable.

If the whole milk is to be limited, linseed meal should be included in the mixture, making four ingredients in the mixture, equal parts of each by weight. The calves should be given all the grain they will clean up readily. It should not be fed in the milk or allowed to sour in the mangers or feed boxes. It should be fed dry. A little may be put in the feed pails following the milk to teach them to eat it.—J. W.

A DAIRY RATION.

Kindly give me a balanced ration for cows. I have corn silage, shredded stalks, timothy hay, corn-and-cob meal and ground oats. If any other grain is needed, it must be bought. I have a Jersey heifer just fresh, which weighs about 400 or 450 pounds and is giving twenty-two and one-half pounds of milk per day, also a Jersey four-year-old giving about thirty pounds of 5.2 test and also a Durham with 3.4 test. These are grass tests without grain.—J. F. M.

The following grain mixture should give good results when fed with the silage, timothy hay and cornstalks at the rates indicated below: Corn-and-cob meal, 300 pounds; ground oats, 300 pounds; linseed meal, 400 pounds; cottonseed meal, 300 pounds. Feed your Jersey cow one pound of this mixture for each two and one-half pounds of milk produced daily and your Durham cow one pound of the mixture for each four pounds of milk produced daily.—J. W.

SUDAN GRASS A POISON.

I would like a little information in regard to Sudan grass. I understand that the second and third cutting of sorghum or sugar cane is a slow poison to live stock when cut for fodder and fed to same. Now would this be the case with Sudan grass? Also, how is the best way to sow it, and how much seed per acre, and when is the proper time. I have about five acres. How does Sudan grass compare with German or Golden millet for hay and yield?—P. C.

There are very few authentic records of where Sudan grass has produced prussic acid poison. Sorghum on the other hand, produces prussic acid poison frequently when severely stunted by dry weather or by being heavily frosted. On this account the second and third crops of sorghum should be pastured very judiciously. When the hay is cut and cured, however, the likelihood of prussic acid affecting the stock is not nearly as great as when pastured.

Sudan grass should be sown about the middle of May at the rate of from twenty to twenty-five pounds per acre. Sudan grass does best on good corn soil. Sudan grass outyields Golden Millet unless there is quite a drought, in which case the millet may produce a higher yield than Sudan grass. The feeding value of Sudan grass is about the same as timothy and is considered a safer feed than Golden millet. The Golden millet, however, contains a little more protein than Sudan grass.—C. R. M.

Says Sam: Tell me what your family does after supper and I'll tell you where your boys and girls are.

Windmill Does Double Duty

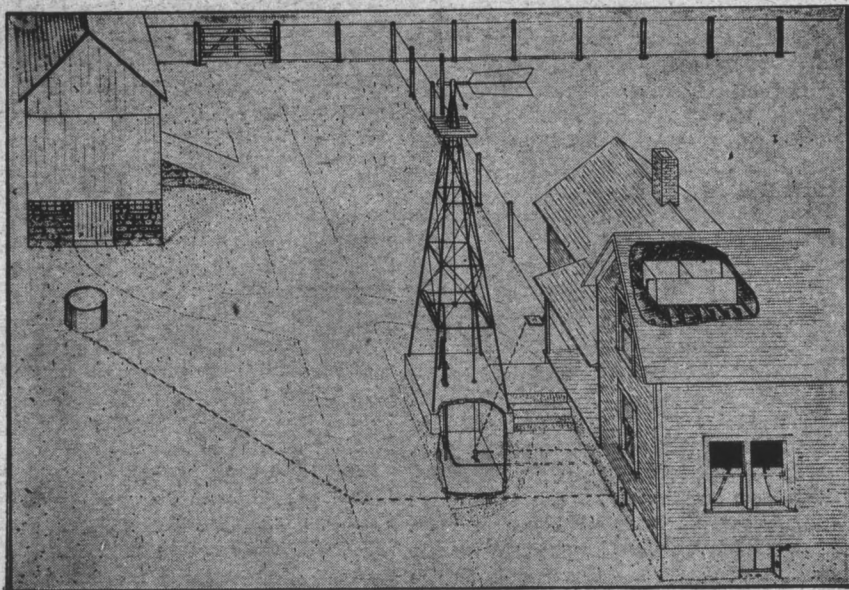
ON a great many farms it is possible to have a complete and up-to-date water system with little expense. In many cases the windmill is located very close to the house, sometimes right on the porch, so it is very easy to pump the hard water into a gravity tank in the house and thus put this water where it can be used to supply the kitchen sink, or a bath room with water under pressure. Simply have the water pumped first into this gravity tank, which may be located on the second floor of the house or in the attic, and when full let it overflow back to the barn tank.

One farmer in Kalamazoo county, whom I visited had contrived a way of making his windmill do double duty. He put a rocker shaft in the

tower of his windmill and connected one arm to his pump rod and the other to another pump rod which extended through the curb or well platform to an ordinary cistern force pump, placed in the bottom of the well pit.

The suction pipe of this pump extended to the cistern and the drive pipe to another tank in the attic. Thus he was able to use his windmill to pump both soft and well water or by the changing of a bolt it would pump either.

This scheme can be used even when the windmill is some distance from the house, as it is possible to pump water from a cistern fifty to seventy-five feet away, the lift usually being very slight.—O. E. ROBEY.



A Kalamazoo Farmer Uses His Windmill to Pump Soft and Well Water.

County Supervision of Music

How It Works in Hillsdale

By Albert Dimmers, Jr.

HILLSDALE county has a system of supervision of music which probably no other county in the state enjoys. Through this system nearly all of the schools in the county have almost the same privileges for cultivating this talent which the larger towns in the county enjoy. Miss Eleanor Kelly, the director of music in Hillsdale city public schools, and head of the music department in Hillsdale College, originated this unique plan, whereby her senior pupils in Hillsdale College receive practice in teaching while the schools in the county are benefited. A year ago last September, Miss Kelly met the teachers at the teachers' institute, and presented a plan for a course for all of the children in the county, at the Hillsdale fair. Miss Kelly requested the teachers to drill their pupils on six songs, which have long been favorites. Miss Kelly went around the county on Saturdays, instructing the different teachers, who in turn helped their pupils.

This chorus of 2,500 children met on Tuesday of the fair, in the grandstand, and were led by Miss Kelly. It was an inspiring spectacle to witness these 2,500 children all singing together as one, with Miss Kelly leading. This meeting was such a success that another community sing was decided to be held the following May at the county track meet. The same plan was followed as in the first sing, although the children were drilled in different songs than were used before. The number taking part at this gathering increased to 3,000, and success again crowned the meeting.

Miss Kelly deserves great credit for her part in both of these enterprises, for it was owing to her push and en-

thusiasm that both events were carried out in such a successful manner. Between the choruses at the latter sing, special numbers were given by the following: The Litchfield school band, Reading high school chorus, and the Temple Male Quartet; also the boys' and girls' glee clubs of Hillsdale high schools gave several numbers. In Miss Kelly's work at Hillsdale College she gives the students normal work in music, by which they are fitted to teach music in the schools. A feature of her work this year is sending the senior music students from the college into the county to teach the children. One student has charge of each small town. By this plan the children are instructed free of charge, while much valuable practice is given Miss Kelly's pupils. On Saturdays, these teachers meet with Miss Kelly, who plans work for the next week, and thus supervises music in the whole county. Besides this, Miss Kelly does community work, going to places where communities desire her leadership. Miss Kelly receives no pay in this county work. It is purely voluntary on her part. She is not employed by the district school boards, nor under any direction from the superintendent of public instruction. Her help is given without pay throughout the county. Miss Kelly was recently appointed on the advisory board of the National Music Supervisors' Convention to be held at Nashville, Tenn., in April.

Hillsdale county is indeed fortunate in having this system of school supervision as well as a public spirited person so remarkably talented as Miss Kelly. The effects of this work will be felt through the county for many years, even if this system dies out.

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And remember that white Cedar Shingles take any color, shade or stain beautifully.

All lumber dealers can supply you. (Insist on seeing the trade-mark above on every bundle).

You will find it worth while to ask us for a copy of our booklet, "How to Lay a Shingle Roof." It's free.

WHITE CEDAR SHINGLE MANUFACTURERS
503 F. R. A. Building Oshkosh, Wisconsin

FLEECE WOOL

Traugott, Schmidt & Sons, are paying the following prices f. o. b. cars, Detroit.

Delaine 35c.	Fine Clothing 25c
Half blood combing 32c	Three-eighths blood combing 30c
Quarter blood combing 30c	Rejections 18 and 22c

Wool sacks furnished on request.

FURS

No. 1 Skunk \$4.15	No. 2 Skunk \$3.10
No. 3 Skunk \$1.90	No. 4 Skunk \$1.00
Large Winter Muskrat \$2.30	Medium Winter Muskrat \$1.60
Small Winter Muskrat \$1.05	

TRAUGOTT SCHMIDT & SONS,

508-560 Monroe Ave.,

Detroit, Mich.

Fruit Trees and Small Fruit Plants

Grape vines, ornamental trees, shrubs and roses. We have been supplying trees and plants to growers for nearly a third of a century; and we number by thousands the ever increasing list of our friends and patrons. Catalogs free upon request.

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NEW HUCKLEBERRY

The Garden Variety that grows from seed the first year. A Huckleberry that thrives in all climates and on all kinds of soil; remarkably prolific, yielding an immense crop of fruit.

EXTRA LARGE

You will be astonished at the unusual size of the fruit and the rapid, easy growth. A great berry for jelly, pies and preserves.

SEND FOR SEED TODAY

Simply mail us 25c in coin or stamps, and we will at once send you, postpaid, three full size packets of seed, and also give you a three months subscription to a big Fruit and Garden Magazine.

NOVELTY GARDEN CLUB
GRAND RAPIDS, MICHIGAN

Fruit Trees By Freight, Express and Mail, Prepaid C. O. D.

No Cash With Order Required

All selected, strictly first-class well-rooted guaranteed Trees

OUR C. O. D. COLLECTION

3 First Class Plum Trees \$1.50

1 Abundance, 1 Burbank and 1 Red June, for these Trees 2 to 3 ft. High

POSTPAID We also list everything needed to beautify grounds and garden in our Free Illustrated Catalogue. Send for it today.

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20 Granger Ave., DANVILLE, N. Y.

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save money, buy at factory. Write today for low prices.

REESH-PRINTZ CO.,
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Ditch Old Methods

Do it easier, quicker and at less cost with

GOLD MEDAL DYNAMITE

For stump blasting, ditching, sub-soiling, tree planting, road making, swamp draining and many other purposes Gold Medal Dynamite is a most efficient and economical aid. See your dealer for reduced prices.

Write us for free booklet, "What Dynamite Will Do."

Illinois Powder Mfg. Co.
1566 Pierce Bldg. St. Louis

Breeding for Egg Production

What Prof. E. C. Foreman Says on the Subject

By R. G. Kirby

IN his address at the Round-up on "Scientific Selection for Egg Production," Professor E. C. Foreman brought up the following points of interest. He proved his ability to select good layers by the fine record which Michigan birds have made in the laying contests. H. E. Dennison now has the lead in the Canadian contest and they were selected according to the teachings of Mr. Foreman.

The psychology of production is emphasized as important. The breeder wants a bird that is live and keen in spite of bad weather. Two Barred Rocks were displayed at the lecture. One hen laid two hundred and fifty eggs and the other about thirty. They aptly illustrated Mr. Foreman's point. There is more in the strain than in the breed and the optimistic intelligent hen is the one that pays. The head reveals quality and the ideal kind of hen is a bird with a Jersey cow head on a Holstein body.

Breeders should pick hens with narrow skulls and avoid the thick, heavy skulls and sunken eyes. Vigor or low vitality are also shown in the head. Brown Leghorns have a different shaped skull than White Leghorns and each bird is an individual study as all have different skulls.

The moist white vent and the big spread tells the present production. The pigment leaves as egg production continues and after July first it pays to cull out all hens with yellow legs. The good hens lay from ten to twelve months of the year and not only in the spring when even the crows are laying.

The egg type hen is wedge-shaped with a long keel bone. The round-bodied hen takes on internal fat. Vitality is very necessary in heavy laying stock. Professor Foreman says that inbreeding for color and type is all right but inbreeding for egg production is all wrong, as the ovaries of the hen are very susceptible to inbreeding. If the breeding is right, the cold weather is not considered a handicap to egg production.

The Male Bird.

In selecting the male bird the temperament should be noted from the head. The medium type, of head is best, not too short or not too long. The bird should have width across the back, with flat ribs, long keel and flat, clean legs. Early maturing and early feathering are important and the breeding male should mature in two hundred days. In the Barred Rock breed the finer the barring the slower the maturity. In male birds it does not pay to give any attention to the spread of the sack as advised by the Hogan system of culling.

In continuing his lectures on the last day of the Round-up, Professor Foreman discussed further points on breeding for egg production. He said that a poor laying hen has as many ovules as a good one. From 500 to 2,000 can be seen with the eye, and from 5,000 to 13,000 with a microscope. There is a great variation in the number of eggs laid by hens of the same breeding. The 302-egg hen had sisters with trap-nest records of 79, 105, 121, 167, 169, 205, 221 and 249 eggs.

After twenty years of careful breeding the Ontario station considers it best not to inbreed closer than half-brother and half-sister or cousins. Dr. Pearl advanced the idea that the male inherited the production of the mother and passed it along to his daughters. Professor Dryden says it comes from both sides.

In discussing weights and egg production, Professor Foreman states that the six, seven and eight-pound Leg-

horns take to beef. The Scotch Leghorns on the college farm take three months longer to mature. There is a suspicion that they have a White Minorca cross in their makeup and they certainly look it. The small type Leghorns are reported to go broody the oftenest. The Rocks that weigh from five and one-half to six and one-half pounds are the best weights for heavy layers.

Professor Foreman believes that thirty per cent of the hens on the farms of Michigan are culls. You breed from your best hens when you hatch early. The hens that lay in January and February are apt to be good ones. The heavy laying hens must continue production until October 15 or after that date, and it does not pay to keep hens that stop laying by September 1.

Age of Maturity.

Rocks, Reds and Wyandottes should be nearly completely feathered at seven weeks of age. By selecting for early maturity the Rocks can be made to mature nearly as early as Leghorns. It pays to select the early maturing cockerels for mating. Use the early crowing birds that develop size. A good cockerel rounds out as he grows and a flat-ribbed bird of wedge conformation is apt to be close feathered. Close feathering seems to be associated with late moulting.

The late moulting birds are the best layers. Professor Foreman gave an instance of a breeder who culled out his best hens because they looked ragged and he wanted to make a good impression when they were culled at a public demonstration. One of the ragged birds escaped from the crate and that was the only good hen on the place when the crowd arrived for the demonstration.

COMPARATIVE BREED WEIGHTS.

Which is the biggest and heaviest hen to raise, Rhode Island Reds or White Rocks?—C. M.

The White Rocks are a little heavier than the Rhode Island Reds, according to the Standard of Perfection. In the White Rock breed, cocks should weigh nine and one-half pounds, the cockerels eight pounds, hens seven and one-half pounds, pullets six pounds. The weight for Rhode Island Reds is cock eight and one-half pounds, cockerels seven and one-half pounds, hens six and one-half pounds, and pullets five pounds.

EXEMPTION FROM EXECUTION.

Will you please tell me from what a man and wife are exempted by law? We bought three horses, four cows and some machinery for \$1,000. The man gave us a bill of sale for \$1,000; we paid him \$700 cash, the other \$300 in joint notes due this fall and now we cannot pay them as our crops were a failure. He is now suing us for the notes. Can he take the horses and cattle?—J. C. T.

All sewing machines, one to a family, spinning wheels, looms, stoves, used in the house, wearing apparel for the family, library and school books, not exceeding in value \$150 per family, family pictures, ten sheep, with fleeces, or cloth from same, two cows, five swine, fuel and provisions for the family for six months, all furniture not exceeding in value \$250, team, and tools of his trade not exceeding in value six months. And any bill of sale or mortgage of any of these made by the husband and not signed by the wife is void.—J. R. R.

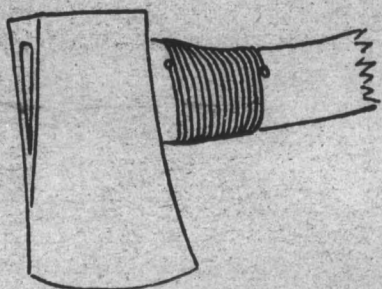
A hot brick in a padded box will often help bring through young pigs born in extremely cold weather.

A DANGEROUS PRACTICE.

PLEASE permit me to call the attention of your readers to the dangerous practice of throwing boards down with nails sticking from them, and leaving them lying around, a constant danger to anyone with worn, thin shoes, or barefoot children in summer. This is a very common habit and causes many deaths from tetanus or lockjaw unless attended to promptly and skillfully.—A. L. P.

TO IMPROVE AN AXE HANDLE.

WHEN I buy a new ax or put a new handle in an old one, the first thing I do is to procure a piece of baling wire about six feet long, make a small hook on one end of the wire, through which a small flat-headed nail is driven into the ax handle. I then proceed to wrap the wire around



the handle, as shown in the illustration. When about two and one-half or three inches of handle has been covered, I insert another small nail around which the wire is bent, cut off and hammered smooth. Care must be taken while wrapping wire around handle to keep the wire tight and close.

Any one who uses an ax, especially for splitting, knows there is a great deal of wear on under side of handle. This is where the wire wrapping prevents any wear whatever. In ten minutes time an ax handle can, in the above way, be made to last as long as three handles not similarly treated.—V. A. G.

HOUSING THE TRACTOR.

THE tractor represents an investment which should be carefully conserved. Protection from the elements is absolutely necessary if efficiency is to be maintained. Too many farmers leave their tractor exposed during the winter months. Proper protection will aid materially in prolonging the life and usefulness of the machine.

Naturally the tractor will be used primarily for belt work during the winter time and if possible provision should be made for housing it in a dry and well lighted building adjoining the work shop or conveniently near it so that it may be readily accessible and in good condition whenever it is desired to use it. In laying up the tractor the following precautions will insure its being kept in good condition:

1. After running it into a well protected storage room and before stopping the motor, slowly pour about a pint of good clean oil into the bowl of the carburetor and continue running until the oil has all been sucked into the motor. Then shut down the motor. The object of this is to coat the friction surfaces with a film of oil to prevent rust.

2. Open all drain cocks on the cooling system. Do not forget to drain the water tank and water line in a kerosene-burning machine. Also drain the air washer.

3. Clean off all dirt and grease from the outside of the machine. Wipe first with kerosene and then with gasoline.

4. At your first opportunity go over the tractor carefully and put it in good shape for the spring work.

FIFTY-FOURTH ANNUAL STATEMENT OF THE Michigan Mutual Life Insurance Company

FOR THE YEAR ENDED DECEMBER 31ST, 1921

PAID-FOR BASIS

ASSETS

Cash in banks.....	\$ 234,253.69
First mortgage liens on real estate.....	11,982,967.63
Real Estate (Home Office Building).....	100,000.00
Amount invested in new Home Office Building.....	375,000.00
Loans to policyholders, secured by reserves.....	2,474,908.71
U. S. Government Liberty Loan Bonds.....	327,512.00
State of Michigan War Loan Bonds.....	35,000.00
Interest due and accrued.....	248,552.20
Net outstanding and deferred premiums, secured by reserves.....	215,936.70

Total Assets.....\$15,994,130.93

LIABILITIES

Reserve fund (including disability benefits).....	\$14,591,970.10
Premiums and interest, paid in advance.....	34,057.19
Installment policies not yet due.....	84,518.78
Other policy claims.....	96,776.34
Accrued taxes, salaries and expenses.....	83,241.88
Surplus.....	1,103,566.64

Total Liabilities.....\$15,994,130.93

Insurance written during 1921.....\$15,122,956.31

Total Amount of Insurance in force December 31, 1921.....\$90,138,868.94

During the year 1921 the Company paid death claims amounting to.....749,043.69

Paid to Living Policyholders.....818,908.56

Total amount paid to policyholders since the organization of the Company.....\$34,545,191.46

A RECORD OF ACTUAL RESULTS WHICH SPEAKS FOR ITSELF

The Michigan Mutual Has Some Lucrative Field Positions Open for Men of Integrity and Ability.

J. J. Mooney, President
R. P. Williams, 1st Vice President
J. Farrand Williams,
2nd Vice Pres.
W. G. Hutchinson, 3rd Vice Pres.
and Medical Director

A. F. Moore, Secretary
John C. Griz, Assistant Secretary
O. F. Looker, 2nd Ass't Secretary
G. W. Sanders, Actuary
Geo. B. McGill, Superintendent
of Agencies

L. H. Chamberlin, Auditor
Russell T. Elwell, Ass't Auditor
Geo. A. Stewart, Cashier
J. V. Oxtoby, Counsel
R. C. Looker, Gen'l Agent for
Detroit

More Silage Per Horse Power- Per Hour

EVERY Papec Ensilage Cutter, regardless of size, is guaranteed to cut and elevate more silage with the same power than any other blower cutter. It keeps the silage moving in a steady stream which prevents choking. The powerful air blast, concentrated in a pipe of small diameter, will put the silage over the top of the highest silo.

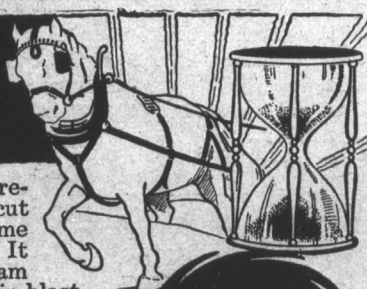
The Powerful PAPEC Ensilage Cutter

handles more silage with less power because every part functions smoothly with every other part. It is tuned to big production. Our big modern plant—the largest devoted exclusively to the making of ensilage cutters—makes possible the huge output and a rigid system of inspecting and testing, make possible the Papec Guarantee—the broadest and most positive of all. Buy a Papec. Our catalog shows how Papec Ensilage Cutters save dollars for Papec owners. Write for it today.

Farmers' Record and Account Book FREE

If you own a silo or intend to build one this year, state its size, also name and address of your dealer. We'll mail you Farmers' Record and Account Book—50 pages—worth a dollar to any farmer.

PAPEC MACHINE CO.
150 Main Street
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36 Distributing Stations
assure prompt service



THROWS
AND
BLOWS



Why Not PUT THIS NEW MILL ON YOUR OLD TOWER

Albion steel and wood mills are quiet and powerful. One-third the working parts of any other mill. Only main Pitman bearing subject to wear. This is oilless, and easily replaceable. Govers by dependable weight without springs. Fits any 4-post steel tower. Why not shorten your chaff hours now with a good Windmill? This is your chance—F. O. B. Albion. Erect it yourself. Ask your dealer, or write direct to Union Steel Products Co. Ltd. 14, 223 N. Berrien Street, ALBION, MICHIGAN, U. S. A.

NEVER KLOG SAWDUST BLOWER

Get Circulars and SPECIAL LOW PRICES for January, February and March. Guaranteed five years—Cash or Easy Terms HILL-CURTIS CO. 1506 No. Pitcher St., Kalamazoo, Mich.

OATS—“Burt's Heavyweight” Test 38 lbs. per bu. Also Early SEED CORN. Get our low price, samples and catalogue. THEO. BURT & SONS, Melrose, Ohio

Mention The Michigan Farmer When Writing Advertisers



ROYSTER REFLECTS QUALITY

Royster's Fertilizer planted with your seed will reflect itself in the **quality and quantity** of your crop.

Again, it reflects itself in your sense of satisfaction that you have selected **Roysters**—the fertilizer that is crop insurance and crop assurance.

And **Then—Royster Quality** is reflected in that additional profit you receive for the **Bigger** and **Better** crops grown with the **Royster Brands**.

The test of years has strengthened the popularity of **Royster Quality** and **Royster Service**.

If there is no **Royster** dealer near you, write us.

F. S. Royster Guano Co.
Box A, Toledo, O.

When Children Cough Use Musterole

When you are awakened in the dead of night by that warning, croupy cough, get up and get the jar of Musterole.

Rub the clean, white ointment gently over the child's throat and chest, and then go back to bed.

Musterole penetrates the skin with a warming tingle and goes right to the seat of trouble.

Will not blister like the old-fashioned mustard plaster and it is not messy to apply.

Made from pure oil of mustard, Musterole takes the kink out of stiff necks, makes sore throats well, stops croupy coughs and colds.

Sold by druggists everywhere, in jars and tubes, 35c and 65c; hospital size, \$3.

The Musterole Co., Cleveland, Ohio
BETTER THAN A MUSTARD PLASTER



MEN WANTED

Sweeney
The Million Dollar School
AUTOMOBILE
and TRACTOR
SCHOOL
KANSAS CITY, MISSOURI
It tells how in a few weeks you can earn from \$150 to \$400 a month in the Auto and Tractor business.
IPAY Will rebate railroad fare from any point in the United States to Kansas City.
Ry. Fare any point in the United States to Kansas City.
JOBS OPEN. Sweeney trained men in demand. See list of jobs. **LEARN IN EIGHT WEEKS.** No previous experience necessary. Use tools not books. Simply send name and address today, a post card will do, for Free book and 27 photographic reproductions of machine shop work, etc. in world's largest and finest trade school. Let's Go—Write Now!

LEARN A TRADE—Sweeney
SCHOOL OF AUTO-TRACTOR-AVIATION
67 SWEENEY BLDG. KANSAS CITY, MO.

Farm Organization News

COOPERATIVE MARKETING BILL PASSES SENATE.

BY a vote of fifty-eight to one the Capper-Volstead Cooperative Marketing bill passed the United States Senate on February 8. The house bill was accepted by the senate, with several minor amendments which make it necessary for the measure to go to conference. It is confidentially expected that it will be signed by the President within a few days.

Passage of the Cooperative Marketing bill marks the greatest victory of the agricultural bloc, the American Farm Bureau Federation, and the other farm organizations which have supported it. The new law will make possible the fullest development of the farm bureau's cooperative marketing program.

GRANGE LEADERS PLEASED.

THE action of the National Agricultural Conference conforms closely to the position of the National Grange on a long list of agricultural problems. The Conference recommended continuance of an excess profits tax, emphasized the necessity for readjusting transportation costs, industrial wages and the "distributors' spread" in the prices of farm products, and stressed the high character and the great economic and sociological value of the farm home and the high type of home life on the farm in comparison with life in cities and villages.

NATIONAL GRANGE LEGISLATIVE RECOMMENDATIONS.

WE are just in receipt of a little booklet issued by the Washington office of the National Grange which summarizes in condensed form the legislative recommendations of this, the largest and oldest farm organization. This is the fourth edition of this booklet. Each congressman has received a copy. The National Grange evidently does not believe that legislation can remedy much of the trouble of agriculture and the rest of the country, for on the cover page of the booklet appears this quotation from S. J. Lowell, master of the national organization:

"The present need of this country is not more laws, but an honest enforcement of what we have. As a great militant body of law-abiding people, the grange has always stood for orderly government and in its own membership it has been a fine exemplification of the great American truth that 'Obedience to Law is Liberty.' Laxity in law enforcement wherever indulged threatens destruction and should immediately command the effective rebuke of every true citizen."

FARM ORGANIZATIONS COOPERATE.

ONE of the fine things about farm folks in this state is that they have learned their lessons well. The walls of prejudice so often found around members of organizations where cooperation is advocated have fallen before the generous spirits here in Michigan and we find the four prominent association of farm people working in complete harmony upon common problems.

In each of these associations the members have learned the advantage of individuals pulling together. By united effort the big load can be moved. From that point it is logical to

conclude that more cooperation will pull a still bigger load. So the forces of the Grange, the Farmers' Clubs, the Gleaners and the Farm Bureau were federated to attain certain definite ends. While through this federation they have aided in securing legislation for the farmer the biggest achievement is, without doubt, the getting of the fundamental claims of agriculture squarely before the public.

GRAIN GROWERS ELECTING DELEGATES.

INTEREST among the 5,303 members of the U. S. Grain Growers, Inc., is now centered on the congressional district meetings and the first annual convention of the association. Delegates to the congressional district conventions were selected at local unit meetings held at more than 950 shipping points on February 7. Nearly fifty national delegates will be elected by the congressional district conventions. This body of farmers, meeting in Chicago on March 21, will elect a new board of directors and decide future policies.

During the last two weeks, Indiana has signed 1,063 members, a total of 5,466, which places that state third on the list in point of memberships. The ten leading states in Grain Growers' memberships are as follows: Illinois, 11,317; Nebraska, 8,553; Indiana, 5,466; North Dakota, 5,196; Missouri, 4,456; Iowa, 4,061; Oklahoma, 2,665; Minnesota, 1,400; Kansas, 963; and Colorado, 804.

FARMERS' INSTITUTES IN UPPER PENINSULA.

RATES for the annual Cloverland Farmers' Institute, held at Menominee County Agricultural School at Menominee, have been set for March 29-30-31. Plans are announced to secure speakers of national reputation from the Holstein-Friesian Association of America and the agricultural colleges of Michigan and Wisconsin. The live stock judging contest will occur March 31. Arrangements are under way with the rural schools of the county whereby the boys and girls receiving the best standing in the seventh and eighth grades will be sent to this contest. The Menominee County Agricultural School, it is announced, will give to the winner in the pig judging contest, a pure-bred Duroc-Jersey or Poland-China pig; to the winner in the judging of dairy cattle a pure-bred Holstein calf; to the winner in the sheep contest a pure-bred Hampshire sheep. No pupil above the eighth grade is eligible to enter this contest.

POWER ON LAND.

THE electrified countryside is a possibility, at least in the opinion of J. R. Howard, president of the American Farm Bureau Federation. He declares that recent advancement in the transmission of electricity promises to greatly extend the use of this type of power. The electrification of railroads, homes, farms and industry is in the immediate foreground. Mr. Howard believes that we are approaching a new era of transportation with much changed and improved systems which will mean tremendous economies to the farmer. "I have," he continues, "in mind also conveniences in living, for the use of electricity for light, heat and power on our farms will add materially to our home lives."

HUBAM

This Spring

Exceptionally low prices on lots for a quick growing emergency crop. Guaranteed against impurities until safe in your hands.

Certified Pedigreed Northern-grown

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MICHIGAN FARM BUREAU BRAND SEEDS

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FREE Drain and Terrace Without Cost

I'll Show You How This year I'm going to give away, absolutely without cost 25 of my record-breaking Martin machines. I'm doing this to bring about better farming conditions and lower crop cost. Find out. Write me.

Prices Cut to the Bone

THE Martin
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Greatest money maker on the farm. Cuts a V-shaped open-drain, irrigation or tile ditch down to 4 feet. Cleans old ditches. Builds farm terraces, dikes, levees and grades roads. Works in any soil—wet or dry. For horses or tractors. Don't miss this liberal offer. Every man has a chance to get his MARTIN free. Martin wins. Write for the story. Prices slashed.

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Send today for this big free book containing actual samples of the new wall papers for 1922; shows samples of borders as well as sidewalls. Big variety to choose from—over 100 patterns in all—popular styles and colors. Many correct designs for every room.

Lowest Prices Since Before the War
ONLY 8c Per Double Roll (96c for Room 10x12x8 ft.)

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Write our house nearest you. Address: Dept. 8-37

Montgomery Ward & Co.
Chicago Kansas City St. Paul



BETTER CLOVER STANDS.

GETTING a good stand of clover when the seed is sown with oats is not a matter of luck, but of methods following the sowing and culture. We have often had better stands of clover with oats than with wheat and rye as nurse crops. There are several reasons for this, among them being a looser seed-bed, better covering of the seed, and the advantage both of these conditions bring to get the seed where there will be sufficient moisture to start quick germination and make an early, vigorous growth.

Since we have used an end-gate oats seeder with the grass-seed attachment we have secured uniformly better stands of clovers and grasses than when we used to follow the oats-seeding with a hand clover seeder. Just why that has been so I can readily make clear. There is also a saving of considerable time for both the grain and clover are broadcasted on the disced ground at the same operation.

When we used to use the hand seeder for sowing clover it might be from a week to ten days before all the seed was sown because of weather conditions or other things.

With the end-gate seeder the clover goes on the freshly disced ground where it is harrowed into the soil immediately with the oats. Practically all the seed is covered and germinates right away. Heavy rains usually follow early seeding which helps to cover any exposed seed and pack the soil about. Both the clover and oats germinate at the same time and the oats is not such a strong competitor as it is when the clover is a week or ten days behind. We have sown the oats and clover in a strong wind and have secured fine even stands of both. The value of this method of seeding can be readily appreciated from the point of economy of time, even stands and better assurance of a heavy stand.—J. L. JUSTICE.

SIDE LIGHTS ON SUGAR BEET GROWING.

AT the recent annual meeting of the Michigan Sugar Beet Growers' Association held at Saginaw, it was found that a majority of the men present planted their beets in rows twenty-eight inches apart. About half as many planted in rows twenty-four inches apart.

While a few cultivated with one horse the majority used two horses and cultivated more than a single row at a time.

As to the depth of planting the seed a vote showed that on the greater number of farms the seed was planted level with the surface of the ground rather than below. The practice seemed to be determined largely by the character of the soil and the amount of moisture which the soil is capable of holding close to the surface.

As to the distance to thin the beets in the row there was a division of opinion as to the most popular length of space, but twelve inches between the plants appeared to have a slight favor over the ten-inch distance.

In this connection it is often found that the weeder's facilitate their work by increasing the distances between the beets, thus reducing the amount of hard labor required to care for the crop. This often cuts down the tonnage. One grower offered this remedy: That the owner pay the help \$16 for a nine-ton beet crop per acre and an addition of twenty cents for each ton over that amount. This would encourage the hand workers to leave the beets sufficiently close together to give a maximum tonnage.

SAMSON

TRACTOR

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\$445

F.O.B. Factory

Pulley and brake, governor, platform and fenders, \$110

This is the lowest price ever quoted on a tractor of this size, quality and capacity.

You want the most for your money in a tractor and power implement. Get the rest of our new proposition before buying.

See your local Samson dealer at once

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Land of Prosperity



offers to home seekers opportunities that cannot be secured elsewhere. The thousands of farmers from the United States who have accepted Canada's generous offer to settle on FREE homesteads or buy farm land in her provinces have been well repaid by bountiful crops. There is still available on easy terms

Fertile Land at \$15 to \$30 an Acre

—land similar to that which through many years has yielded from 20 to 45 bushels of wheat to the acre—oats, barley and flax also in great abundance, while raising horses, cattle, sheep and hogs is equally profitable. Hundreds of farmers in western Canada have raised crops in a single season worth more than the whole cost of their land. With such success comes prosperity, independence, good homes and all the comforts and conveniences which make life worth living.

Farm Gardens, Poultry, Dairying

are sources of income second only to grain growing and stock raising. Attractive climate, good neighbors, churches, schools, good markets, railroad facilities, rural telephone, etc.

For illustrated literature, maps, description of farm opportunities in Manitoba, Saskatchewan, Alberta and British Columbia, reduced railway rates, etc., write

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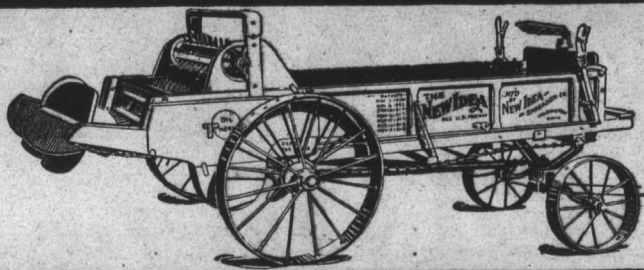


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Francisco Farm Notes

By P. P. Pope

FARMERS' Week at the college is over. We have been permitted to enjoy, along with the thousands of other Michigan farmers, the feasts of reason and floods of learning, not to mention banquets of fellowship, that have so freely flowed forth from within her dumb walls. It is good that so many of our farmers could be there. It would be well if all of them could have been there. It would tend to develop more good, less bad, and no indifferent farmers in the good old state of Michigan. To know the personnel of her great agricultural institutions, is to have confidence in them; to know



the good work they are doing, is to lend your most hearty support; to know the standing of Michigan agriculture, its possibilities and prospects, is to be glad and proud you are one of her farmers. Could Michigan's ninety-seven thousand Farm Bureau members have been present at the annual meeting and heard the reports, recommendations and discussions, they would have caught a vision of the greatness of the institution of which they are a part, that would compel them to be boosters, and put to shame those few of them who have allowed petty grievances to obscure, for the moment, the larger objective.

Familiarity with the farm bureau movement from its very beginning leads us to marvel at its progress, to feel that her present course is laid out along sane lines that mean still more rapid and satisfying progress, and to know that under the present directorate and management her affairs are indeed in safe hands.

You knocker, stop! Pay up your dues, Begin to Boost—You cannot lose!

Could the eighty-eight thousand Michigan Farmer subscribers have been in attendance at the general sessions, they would have absorbed enthusiasm enough to carry them safely over another period of depression without weakening. A doctor once told a young married couple that they could live on love and kisses all right for a while, but bye and bye there would be need of something more substantial. So with farming, we need something more substantial than enthusiasm, but it helps mightily when there is little else to depend upon, it is a wonderful aid in creating the "something more substantial," and it marks the difference between drudgery and pleasure in one's work.

The Michigan Agricultural College is the oldest agricultural college in the United States. As a center of agricultural learning she stands well at the top. Her graduates have perhaps had a greater influence in the development of agriculture throughout the United States during the last half century than those of any other single institution. She is our own college. Right here in our front yard, so to speak, for the benefit of our sons and daughters. And it somehow seems to bring her closer home, and give us greater confidence in her future usefulness, when we know that the control of her affairs is vested in an all-farmer State Board of Agriculture. The fact that these great farmer institutions are controlled by interlocking boards of directors who have the confidence of the people, speaks volumes for the safe

and sure advance of Michigan agriculture.

The flood of inquiry that has followed our remarks on the "Federal Land Bank" in a recent issue, calls for some further explanation in these notes. Cheaper interest rates and long-time loans are surely very attractive at this time. The Federal Farm Loan Act was passed by congress, and approved by President Wilson in 1916, and immediately became law. Its general purposes were "to lower and equalize interest rates on first mortgage farm loans; to provide long-term loans with the privilege of repayment in installments through a long period of years; to assemble the farm credits of the nation, to be used as security for money to be employed in farm development; to stimulate cooperative action among farmers; to make it easier for the landless to get land; and to provide safe and sound long-term investments for the thrifty." There are three parts to the machinery for applying the act. (1) The Federal Farm Loan Board; (2) The twelve Federal Land Banks; (3) The many National Farm Loan Associations, organized and controlled by the borrowers themselves, each made up of ten or more farmers. These National Farm Loan Associations, located in all parts of the country, are the local units of the Federal Farm Loan system, and through them practically all loans are made. The first step, then, in securing a loan would be to ascertain if there is an association now operating in your community. Your county agricultural agent can no doubt tell you. If you find one already organized in your county or within easy reach, see the secretary and follow his instructions. If not, join in with a dozen or fifteen of your thrifty farmer borrowers and form one. Your county agent can be of great assistance to you here in locating the cooperators and in getting the organization into working order. The National Farm Loan Association is really a cooperative organization with liability limited to ten per cent of their loan. Ten or more men are required to form an organization with applications for loans amounting to not less than 20,000. It will expedite matters if this minimum requirement is increased at least one-half before applying for a charter, then in case some of the loans fail of approval the rest will not be delayed.

Loans are made only on first mortgage security, and the amount of the loan is limited to fifty per cent of the value of the land, plus twenty per cent of the value of the permanent improvements. Loans must be approved by the local loan committee and also by a representative of the Federal Land Bank. Loans are made only to those who personally operate or conduct operations on their own farms, and the funds so secured must be used to discharge existing indebtedness; for the purchase of land, or live stock, or fertilizers, or needed buildings, or drains, or proper equipment, or for any kind of productive improvements. It being the object of the law to develop agriculture and benefit the farm as well as the farmer. Inquiries addressed to E. G. Quamme, President of Federal Land Bank, St. Paul, Minn., will bring complete information.

Herman Wolf says that a retiring disposition is all right and it's a good thing that some folks are rather backward about coming forward. Otherwise he thinks folks wouldn't do much business in meetings, as usually there's plenty of talk but not much thinking.

Please Mention The Michigan Farmer When Writing to Advertisers

The Farmer at Washington

Congressman Ketchum Reviews Situation

THE whys and wherefores of the change in the attitude at Washington toward the farmer was clearly presented to a hall filled to capacity at Farmers' Week by the Hon. John C. Ketchum, member of congress from Michigan.

At Washington and elsewhere farmers are now doing fine teamwork. Not only have they developed cooperative organizations but they have advanced to the next step and are now bringing these various organizations into harmonious working order. Interests have been so confederated that the whole force and influence are pulling in the same direction.

The fortunate thing is that the farmer has decided on a sane program. He has endeavored to keep in mind other classes while working out his own problems. The great industry of agriculture is on trial. Farmer leadership is on the stand to prove that in it lies the salvation of a people.

In matters of legislation the farmer is at Washington. Seemingly he has asked a reasonable thing as to tariff schedules, the big issue before the administration. The farmer's position is that when the policy of the government is for a protective tariff then the farmer holds that the agricultural interests should be protected to the same extent as other industries. If the protective tariff is good for the manufactured articles of New England it is good for the farmers of the central west. It should apply to farm and factory alike.

The farmer has also been at Washington in reference to credit legislation, according to Mr. Ketchum. A bill providing for the increase of \$25,000,000 in the capital of the farm loan board has been enacted. The War Finance Corporation has been revived. This was done in good spirit although there is some question as to whether the measure is providing the relief to the farming interests that had been hoped by its friends. The Kenyon bill by increasing the interest rate on farm loan bonds stimulated public interest in these securities.

The pressure exerted by the agriculture bloc has made possible the selection of a member to the federal reserve board who knows and is in sympathy with the agricultural situation. Progress in the consideration of the Capper-Volstead cooperative marketing bill to the advantage of the farmer has also been made and measures providing for the closer supervision of the stock yards have been shaped into law. The farmers' representatives are watching closely the regulation of filled milk, transportation laws, taxation measures, and in fact, every piece of legislation that has a bearing upon agriculture.

How important the federal taxation question is to the individual was emphasized by Mr. Ketchum when he cited that while we pay an annual state tax of \$21,000,000, Michigan's portion of the federal tax amounts to \$271,000,000 annually. The need of watching is further emphasized when it is understood that eighty-two per cent of this federal tax is used for military purposes.

It was largely out of the fight on the federal income tax, said the speaker, that the agricultural bloc developed. The tax returns shows that the bulk of the income tax was paid in the east. The center of the income from this source lay east of the Ohio line. The east planned to impose a greater portion of this tax on the west. This program met opposition and in developing their machinery to meet the east congressmen and senators from the central and southern states federated

their strength into the bloc which is now terrifying those who for so long have had a big say as to what should and what should not be written into our federal laws.

A TIP TO BANKS.

THE time has come when the banks of Michigan must begin to extend more liberal credits to farmers, that the agriculture of the state may once again attain a condition of normality."

This statement was made at the meeting of the Michigan County Agents' Association, by Hugh A. MacPherson, state banking commissioner, in an address at the Michigan Agricultural College.

Mr. MacPherson pointed out in his talk that the agricultural conditions of Michigan have become such that it is now absolutely essential that the farmers be given money if they are to carry on with their work through this year. Hitherto, he pointed out, the financial and industrial situation has been such that the banks have not felt justified in extending agricultural credits to any marked degree. But now, with the nation gaining a more solid footing in business and industry, it is time for the banks to loan money more generously to the producers who at present occupy a field where funds are a matter of prime necessity. The extension of credits, however, the speaker added, must be gradual, and the farmer has no reason to expect there will be a sharp return to the easier money conditions of pre-war days.

NEW VARIETIES RELEASED.

THE Michigan Agricultural College has released five new varieties of seed which have been developed by the department of farm crops in co-operation with the Michigan Crop Improvement Association. There are three new varieties of corn, the New Duncan, The Golden Wheat, and the M. A. C. Yellow Dent. The other two varieties now offered are the Hardigan alfalfa and the Robust bean.

FOR ECONOMICAL SEEDING.

THE development of power farming equipment still goes on. One of the latest devices is a seeding attachment which can be connected directly to a spike-tooth harrow, thus making a superior combination for seeding and covering of grasses and legumes at one operation. The attachment is made in various lengths so as to fit two, three or four-section harrows and can be used equally effectively with any one. The power for operating the seed-hole agitator is derived from two wheels, one at each end of the machine. The whole machine is built close to the ground to prevent scattering of the seed by the wind.

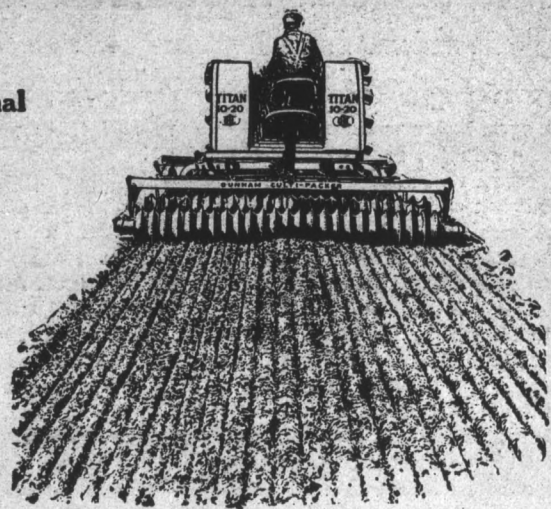
Combining farm operations so they can be conducted simultaneously is a very effective way of reducing the cost of crop production. Progressive farmers will readily recognize the value of the new machine and will undoubtedly find it of great advantage.

A CORRECTION.

We note an error in the illustrations showing the Oviatt sheep rack on page twelve of your issue of February 4. The two outer bottom boards "D" should be shown extending out under the end and side manger boards "AA" and firmly nailed to them from below, as described near the middle of the column on Page 137.

International Tillage Tools

Write for Catalog



The Better the Seedbed The Bigger the Yield

THIS YEAR—as always before—making the seedbed will call for fast and thorough work. The planting season will roll around with unalterable certainty, but no matter how few the days between plowing and planting you can have a profit-building seedbed by using efficient equipment.

International Tillage Implements combine the three essentials—good work, long life and convenience. They are mechanically correct because their construction is based on ninety years of practical farm and factory experience. They are priced on the basis of economical quantity production, and as an investment they offer you attractive returns.

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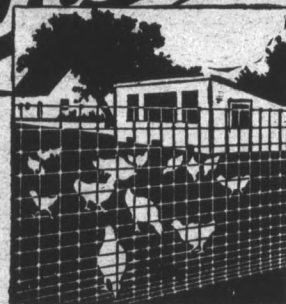
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Invest in a Dunham Cultivator. Use it on winter wheat to press back the frost-heaved soil around the roots. Use it on your seedbeds. It firms the subsoil, leaving a loose surface. Use it back of your drill. It gives every seed a quick start.

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For 23 Years This Good Fence

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"The fence has been severely tested by horses, cattle and hogs," he says, "and though never protected by a barbed wire, the only repairs ever needed were new posts and re-stretching the fence when the old oak posts rotted off. The fence is good for many more years of efficient service".

The same proven quality in this Poultry Fence of ours is common to all Peerless fencing.

Write today for our 64-page illustrated book on fencing for unusually attractive styles of poultry fences.

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Mr. C. F. McIndoo, Lyons, Ind. writes: "My fence arrived O. K. Like it fine. Saved 24c a rod by buying of you. Our big Catalog shows 100 styles and heights and is yours for the asking. You can't afford to buy fence until you see this bargain book. Write for it today."
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We Pay \$200 MONTHLY SALARY, furnish rig and expenses to all who qualify for introducing guaranteed poultry and stock powders. BIGLER CO., X-663, Springfield, Ill.

Talks on Federal Reserve

Prominent Ionia Farmer Points Out Weakness in Our Financial System

IN an open letter written in reply to a questionnaire sent out by Frank M. Hinton in behalf of the Federal Reserve Bank of Chicago, Amos Welch of Ionia, who needs no introduction to the readers of this journal, takes occasion to tell in his characteristic way of some of the things which he believes to be wrong with the financing system of the nation. Mr. Welch says: Dear Sir:—

I received your card and letter of December 2, and will say that I am very much interested in your report of "business conditions" and would like to have it continued.

I am very much interested in agriculture, especially stock raising, feeding, and stock shipping, having stock from the states of Montana, Idaho and Wyoming to Chicago and to our ranch holdings in northern Michigan by the thousands and to our farms in Ionia county where we have always carried on a feeding proposition. But the raising of freight rates and other charges have entirely eliminated us from the business, letting our ranches lie practically idle and our barns empty.

The price of sheep today would scarcely pay the freight from the west to our northern ranches where are located some of the finest stock propositions in this country. The freight rate from Chicago to Ionia county for twenty-five years was thirteen cents per hundred pounds, now it is thirty-one and one-half cents. The rate from Ionia, Michigan, to Taft, Iosco county, Michigan, was \$22 for a double deck of sheep, later raised to \$33, and at the present time \$70.25 per car and no service.

We never used to hear of such a thing as unloading and feeding between Ionia and Chicago or between our northern ranch and Ionia. Now it is seldom that we get a shipment without a charge for unloading, loading and a feed bill attached, holding the stock over twenty-four hours and damaging them three times the amount of the extra charges.

Then talk about a ten per cent reduction in rates; which I see you mention in your report as being a great help to the live stock interests.

Taking ten per cent from \$70.25 leaves \$62.87 to pay for what we used to get for \$22, and then we got some "service."

The air line distance for the haul is only 154 miles.

I recently saw a freight receipt for hauling a car of wheat fifty miles on a straight line, of \$98. Do you wonder that the farmers are going into bankruptcy and that, discouraged, they are going out of business?

Now, in regard to the Federal Reserve Bank. When inaugurated it was not intended as a money-making institution, but it was intended that it would make our money system more elastic, so that the crops of the country could be marketed without being obliged to call on Wall Street, which at that time had complete control of our money system.

I see by your report of November that in Iowa and Illinois landlords are making concessions to the tenants because they have not been able to make their expenses and are lowering their rent to try and induce the tenants to remain.

The whole country, I think, is willing to admit that the Federal Reserve system of finance, together with the American farmer feeding our own and the allied armies, won the war. But when the war was over the "moneyed interests," with the help of the federal system, turned their guns on the producing classes and have forced them

to sell their products below the cost of production.

At our state agricultural college last year where 4,200 farmers were congregated, a representative of your branch office at Detroit delivered an address and in the course of his remarks said, "We are going to force you farmers to put your products on the market to lower the cost of living, because we are not going to loan the farmer any more money."

Your representative surely knew what he was talking about and you kept your promise. You raised the rate of interest so high that the banks could not afford to handle any loans to the farmers and the result has been that the farmers by the thousands have been forced into bankruptcy.

I see by your report that you mention the "J. Pierpont Morgan Pool" of fifty million dollars that the great philanthropist was willing to come to the stockman's rescue and loan to them at 'eight' per cent interest when their 'security' was ample. He was alarmed about the shortage of beef in this country and maybe was afraid that the price of his sirloin steaks would be advanced. Before the war he was glad to loan his money at four and one-half to five per cent.

If I have not been misinformed, the Federal Reserve Banks of the United States earned 160 per cent on their capital last year, and the Federal Reserve Bank of Chicago, the district we "belong to," earned 195 per cent.

If the above is true I would like to see it figured out as to how long it will be before the federal reserve banks and their "allies," if things continue as at present, will have control of all the money and wealth of the United States.

Please do not forget to continue to send me your reports, as you can see that I am vitally interested. Your postal was too small to contain my reply so am following your suggestion with a more extended reply.

Very truly yours,
AMOS WELCH.

POWER AND FARMING.

IT requires more power to carry on the business of agriculture than is required by all other industries combined. A hundred years ago one family living in town demanded the surplus farm products of four families living in the country. Today the condition is reversed and one farmer grows sufficient on his land to feed four city families. The increased use of power on the farm is the reason for this big change.

TRACTOR TIPS.

If you would be safe rather than sorry, don't overload.

To run a straight furrow you must look a long way ahead.

Read, study and commit to memory the book of instructions.

Carelessness and abuse are at the bottom of most tractor troubles.

Don't play with your tractor. Be serious. Make power farming a business.

Planning your work so that it can be done with the least possible effort is not laziness but good planning.

Oil your tractor and keep it oiled.

Keep the grease cups screwed down at all times.

Don't let the magneto wires get oil or water-soaked.

You can do more good work on your tractor with an oil can than you can with a monkey wrench.



NOWHERE is the need for reducing the cost of production more urgent than in the case of the great staple crops *Corn, Grain, Hay*. These have always been low value per acre crops. Their labor cost factor is high. A double yield per acre involves but little additional labor.

Fertilizers are the direct means to increase yield. For the best results, fertilizers must be properly balanced.

One-sided fertilization spells soil exhaustion. Balance the fertilizer with 5 to 10 per cent. of Potash. There is plenty of it now.

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Three effective implements in one

There's undoubted economy in buying this Planet Jr. No. 25 combined seeder, double and single wheel hoe. It includes every advantage of these three separate implements—an accurate seeder, a double wheel hoe for hoeing both sides of a row at once—and an efficient single wheel cultivator for 'tween rows. In every particular a Planet Jr. product—accurate and durable, simple to operate, thoroughly dependable.

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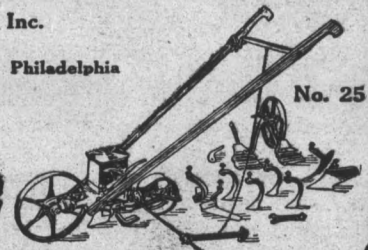
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The DUPLEX will cut as closely or trim as long as you wish it to be. No clippers or scissors are needed with the DUPLEX, it finishes the work completely. It cuts the front hair long and the back hair short. Trims around the ears, etc.

Inside of a very short time you will have to pay \$2.00 for the DUPLEX. The price today is \$2.00, but while our present stock lasts we will accept this advertisement the same as \$1.00 Cash. Cut it out and send it with ONLY \$1.00 and we will send you the DUPLEX AUTOMATIC HAIR CUTTER, ready for instant use, postage paid, to any address. Send today. AGENTS WANTED.

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Make \$20 a Day. Anyone, with a new, improved LONG Log Saw, can make big money sawing wood for himself and neighbors. It falls trees, saws up logs and limbs, saws 15 to 40 cords a day easy. Goes anywhere. Perfect balance makes it easy to handle—just push it like a wheelbarrow. No watching. One man runs it.

Genuine LONG Log Saw
Has new patented features found on no other. Easy starting, 4 H.P., specially designed engine with magneto, does all bulk work when not sawing. Throttle governed—speed controlled like a steam engine's. Two counter-balanced flywheels. Safety Friction Clutch starts and stops saw—prevents breakage of saw blade. Uses little fuel (either gasoline or kerosene). Lightest, fastest, most durable saw equipment made. Does 10 men's work for few cents a day.
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Result of 25 years' log saw and engine experience. Made by old reliable company. Try a LONG Log Saw in your own timber—TWO MONTHS at my risk. Easy terms and iron clad guarantee. Write today for latest FREE Catalog of LONG Log Saws—a card will do.—GEO. E. LONG, Pres., LONG MFG. CO., Dept. 105 Cherryvale, Kas.

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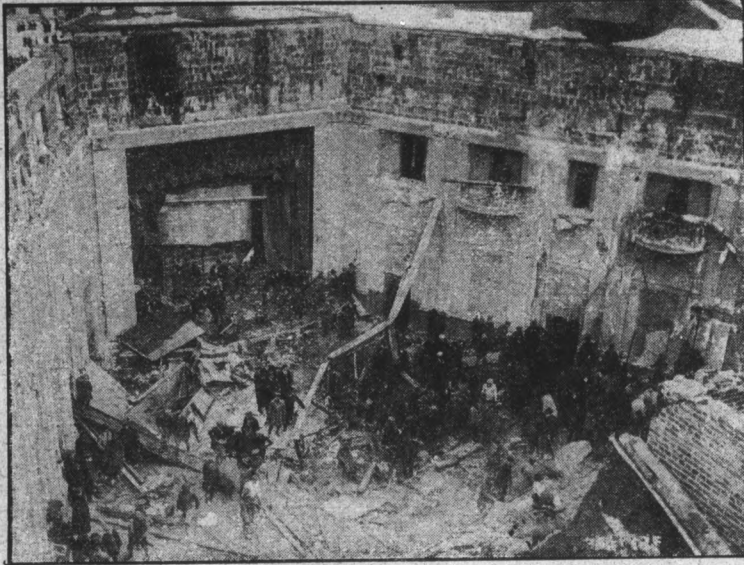
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WORLD EVENTS IN PICTURES



President Harding addresses National Agricultural Conference.



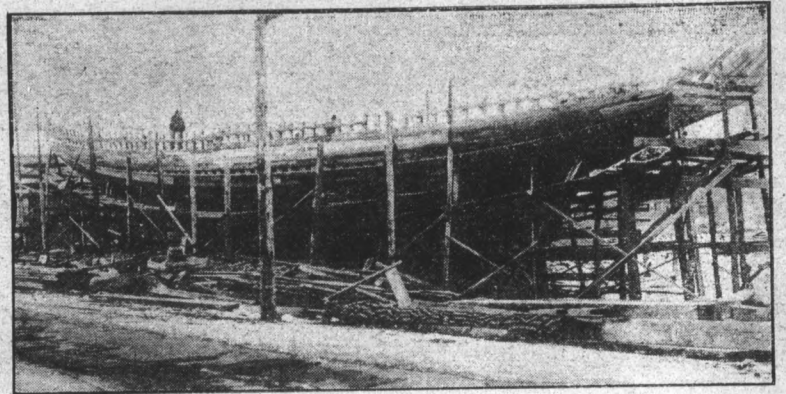
Showing the destruction wrought by the collapsing of the roof of the Knickerbocker Theatre in Washington, D. C.



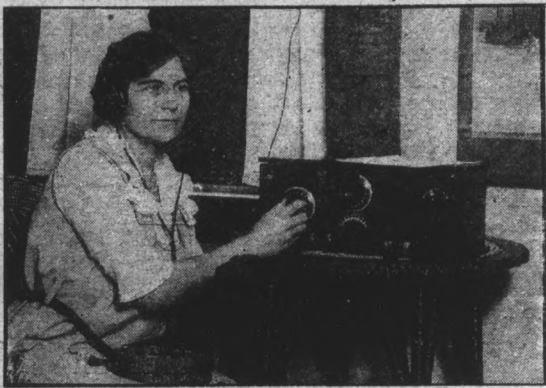
Former Pope in session with the American Knights of Columbus.



Women delegates to the National Agricultural Conference. Mrs. Ketcham, of Michigan, is the fifth from the right.



The fishing schooner "Puritan" in process of construction. She will challenge the Canadian "Bluenose" for the championship.



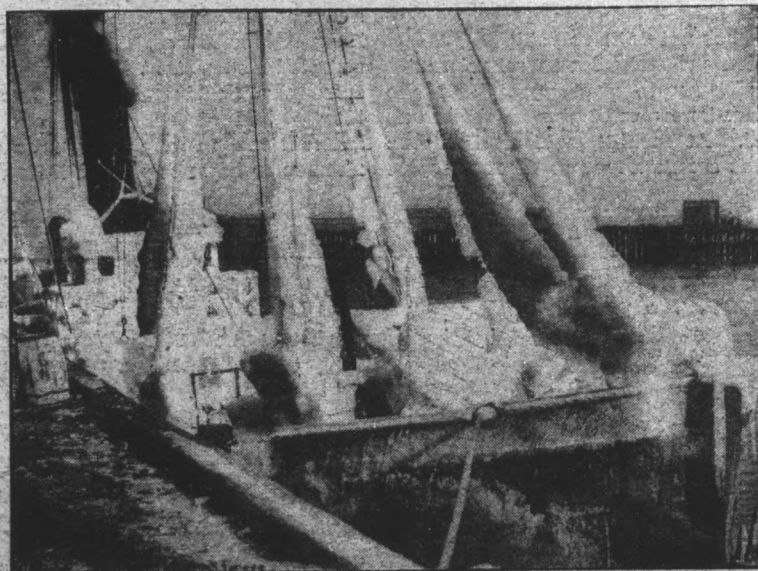
Mrs. Gilbert, of Washington, markets by radio, after getting agricultural department reports.



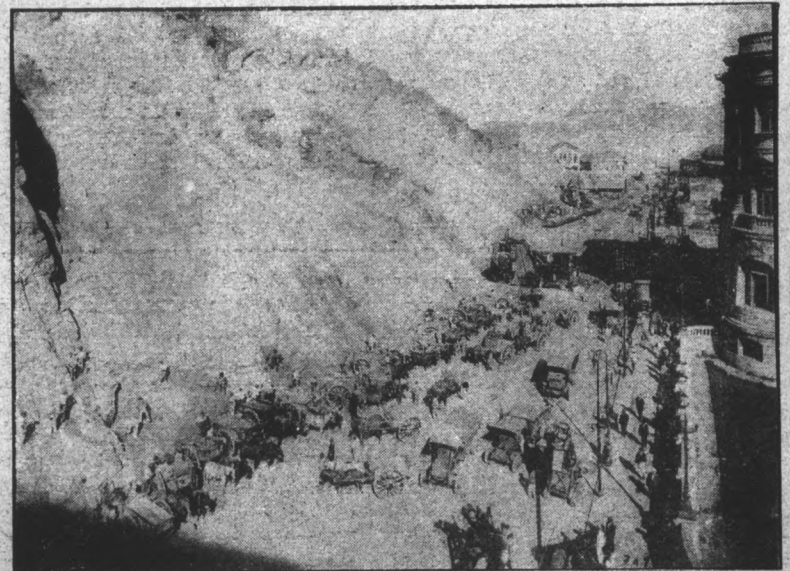
Miss Emily A. Gray gets honors in dairying at Penn. State College.



Huge pine in Japan died recently after 1200 years of existence.



Fishing is not always fun. Fishing trawler "Ripple" shows results of winter gale after a fishing trip.



Faith, steam shovels and mule carts are moving a mountain to make room for the city of Rio de Janeiro.

THE BLIND MAN'S EYES

By William MacHarg and Edwin Balmer

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CHAPTER XVI.

Santoine's Eyes "Fail" Him.

EATON, coming down rather late the next morning, found the breakfast room empty. He chose his breakfast from the dishes on the sideboard, and while the servant set them before him and waited on him, he inquired after the members of the household. Miss Santoine, the servant said, had breakfasted some time before and was now with her father; Mr. Avery also had breakfasted; Mr. Blatchford was not yet down. As Eaton lingered over his breakfast, Miss Davis passed through the hall, accompanied by a maid. The maid admitted her into the study and closed the door; afterward, the maid remained in the hall busy with some morning duty, and her presence and that of the servant in the breakfast room made it impossible for Eaton to attempt to go to the study or to risk speaking to Miss Davis. A few minutes later, he heard Harriet Santoine descending the stairs; rising, he went out into the hall to meet her.

"I don't ask you to commit yourself for longer than today, Miss Santoine," he said, when they had exchanged greetings, "but—for today—what are the limits of my leash?"

"Mr. Avery is going to the country club for lunch; I believe he intends to ask you if you care to go with him."

He started and looked at her in surprise. "That's rather longer extension of the leash than I expected," he replied.

He stood an instant thoughtful. Did the invitation imply merely that he was to have greater freedom now?

"Do you wish me to go?" he asked.

Her glance wavered and did not meet his. "You may go if you please."

"And if I do not?"

"Mr. Blatchford will lunch with you here."

"And you?"

"Yes, I shall lunch here too, probably. This morning I am going to be busy with Miss Davis on some work for my father; what I do depends on how I get along with that."

"Thank you," Eaton acknowledged.

She turned away and went into the study, closing the door behind her. Eaton, although he had finished his breakfast, went back into the breakfast room. He did not know whether he would refuse or accept Avery's invitation; suddenly he decided. After waiting for some five minutes there over a second cup of coffee, he got up and crossed to the study door and knocked. The door was opened by Miss Davis; looking past her, he could see Harriet seated at one of the desks.

"I beg pardon, Miss Santoine," he explained his interruption, "but you did not tell me what time Mr. Avery

is likely to want me to be ready to go to the country club."

"About half-past twelve, I think."

"And what time shall we be coming back?"

"Probably about five."

He thanked her and withdrew. As Miss Davis stood holding open the door, he had not looked to her, and he did not look back now as she closed the door behind him; their eyes had not met; but he understood that she had comprehended him fully. Today he would be away from the Santoine house, and away from the guards who watched him, for at least four hours, under no closer espionage than



that of Avery; this offered opportunity—the first opportunity he had had—for communication between him and his friends outside the house.

He went to his room and made some slight changes in his dress; he came down then to the library, found a book and settled himself to read. Toward noon Avery looked in on him there and rather constrainedly proffered his invitation; Eaton accepted, and after Avery had gone to get ready, Eaton put away his book. Fifteen minutes later, hearing Avery's motor purring outside, Eaton went into the hall; a servant brought his coat and hat, and taking them, he went out to the motor. Avery appeared a moment later, with Harriet Santoine.

She stood looking after them as they spun down the curving drive and onto the pike outside the grounds; then she went back to the study. The digest Harriet had been working on that morning and the afternoon before was finished; Miss Davis, she found, was typewriting its last page. She dismissed Miss Davis for the day, and taking the typewritten sheets and some other papers her father had asked to have read to him, she went up to her father.

Basil Santoine was alone and awake; he was lying motionless, with the cord and electric button in his hand which served to start and stop the phonograph, with its recording cylinder, beside his bed. His mind, even in his present physical weakness, was always working, and he kept this apparatus beside him to record his direc-

tions as they occurred to him. As she entered the room, he pressed the button and started the phonograph, speaking into it; then, as he recognized his daughter's presence, the cylinder halted; he put down the cord and motioned her to seat herself beside the bed.

"What have you, Harriet?" he asked.

She sat down and glancing through the papers in her hand, gave him the subject of each; then at his direction she began to read them aloud. She read slowly, careful not to demand straining of his attention; and this slowness leaving her own mind free in part to follow other things, her thoughts followed Eaton and Avery.

As she finished the third page, he interrupted her.

"Where is it you want to go, Harriet?"

"Go? Why, nowhere, father!"

"Has Avery taken Eaton to the country-club as I ordered?"

"Yes."

"I shall want you to go out there later in the afternoon; I would trust your observation more than Avery's to determine whether Eaton has been used to such surroundings. They are probably at luncheon now; will you lunch with me here, dear?"

"I'll be very glad to, father."

He reached for the house telephone and gave directions for the luncheon in his room.

"Go on until they bring it," he directed.

She read another page, then broke off suddenly.

"Has Donald asked you anything today, father?"

"In regard to what?"

"I thought last night he seemed disturbed about my relieving him of part of his work."

"Disturbed? In what way?"

She hesitated, unable to define even to herself the impression Avery's manner had made on her. "I understood he was going to ask you to leave it still in his hands."

"He has not done so yet."

"Then probably I was mistaken."

She began to read again, and she continued now until the luncheon was served. At meal-time Basil Santoine made it a rule never to discuss topics

relating to his occupation in working hours, and in his present weakness, the rule was rigidly enforced; father and daughter talked of gardening and the new developments in aviation. She read again for half an hour after luncheon, finishing the pages she had brought.

"Now you'd better go to the club," the blind man directed.

She put the reports and letters away in the safe in the room below, and going to her own apartments, she dressed carefully for the afternoon. The day was a warm, sunny, early spring day, with the ground fairly firm. She ordered her horse and trap, and leaving the groom, she drove to the country-club beyond the rise of ground back from the lake. Her pleasure in the drive and the day was diminished by her errand. It made her grow uncomfortable and flush warmly as she recollected that—if Eaton's secrecy regarding himself was accounted for by the unknown injury he had suffered—she was the one sent to "spy" upon him.

As she drove down the road, she passed the scene of the attempt by the men in the motor to run Eaton down. The indefiniteness of her knowledge by whom or why the attack had been made only made it seem more terrible to her. Unquestionably, he was in constant danger of its repetition, and especially when—as today—he was outside her father's grounds. Instinctively she hurried her horse. The great white club-house stood above the gentle slope of the valley to the west; beyond it, the golf-course was spotted by a few figures of men and girls out for early-season play. And further off and to one side of the course, she saw mounted men scurrying up and down the polo field in practice. A number of people were standing watching, and a few motors and traps were halted beside the barriers. Harriet stopped at the club-house only to make certain that Mr. Avery and his guest were not there; then she drove on to the polo field.

As she approached, she recognized Avery's lithe, alert figure on one of the ponies; with a deft, quick stroke he cleared the ball from before the feet of an opponent's pony, then he looked up and nodded to her. Harriet drove up and stopped beside the barrier; people hailed her from all sides, and for a moment the practice was stopped as the players trotted over to speak to her. Then play began again, and she had opportunity to look for Eaton. Her father, she knew, had instructed Avery that Eaton was to be introduced as his guest; but Avery evidently had either carried out these instructions in a purely mechanical manner or had not wished Eaton to be

AL ACRES—Al's Rapid Rabbit Shooting Leaves Slim in Suspense Over the Weakening of His Support.

—By Frank R. Lee



with others unless he himself was by; for Harriet discovered Eaton standing off by himself. She waited till he looked toward her, then signaled him to come over. She got down, and they stood together following the play.

"You know polo?" she questioned him, as she saw the expression of appreciation in his face as a player daringly "rode-off" an antagonist and saved a "cross." She put the question without thought before she recognized that she was obeying her father's instructions.

"I understand the game somewhat," Eaton replied.

"Have you ever played?"

"It seems to deserve its reputation as the summit of sport," he replied.

He answered so easily that she could not decide whether he was evading or not; and somehow, just then, she found it impossible to put the simple question direct again.

"Good! Good, Don!" she cried enthusiastically and clapped her hands as Avery suddenly raced before them, caught the ball with a swinging, back-handed stroke and drove it directly toward his opponent's goal. Instantly whirling his mount, Avery raced away after the ball, and with another clean stroke scored a goal. Every one about cried out in approbation.

"He's very quick and clever, isn't he?" Harriet said to Eaton.

Eaton nodded. "Yes; he's by all odds the most skillful man on the field, I should say."

The generosity of the praise impelled the girl, somehow, to qualify it. "But only two others really have played much—that man and that."

"Yes; I picked them as the experienced ones," Eaton said quietly.

"The others—two of them, at least—are out for the first time, I think."

They watched the rapid course of the ball up and down the field, the scurry and scamper of the ponies after it, then the clash of a mele again.

Two ponies went down, and their riders were flung. When they arose, one of the least experienced boys limped apologetically from the field. Avery rode to the barrier.

"I say, any of you fellows want to try it? We're just getting warmed up."

Harriet glanced at the group Avery had addressed; she knew nearly all of them—she knew too that none of them were likely to accept the invitation, and that Avery must be as well aware of that as she was. Avery, indeed, scarcely glanced at them, but looked over to Eaton and gave the challenge direct.

"Care to take a chance?"

Harriet Santoine watched her companion; a sudden flush had come to his face which vanished, as she turned, and left him almost pale; but his eyes glowed. Avery's manner in challenging him, as though he must refuse from fear of such a fall as he had just witnessed, was not enough to explain Eaton's start.

"How can I?" he returned.

"If you want to play, you can," Avery dared him. "Furden"—that was the boy who had just been hurt—"will lend you some things; his'll just fit you; and you can have his mounts."

Harriet continued to watch Eaton; the challenge had been put so as to give him no ground for refusal but timidity.

"You don't care to?" Avery asked.

"Why don't you try it?" Harriet found herself saying to him.

He hesitated. She realized it was not timidity he was feeling; it was something deeper and stronger than that. It was fear; but so plainly it was not fear of bodily hurt that she moved instinctively toward him in sympathy. He looked swiftly at Avery, then at her, then away. He seemed to fear alike accepting or refusing to play; suddenly he made his decision.

"I'll play."

(Continued next week.)

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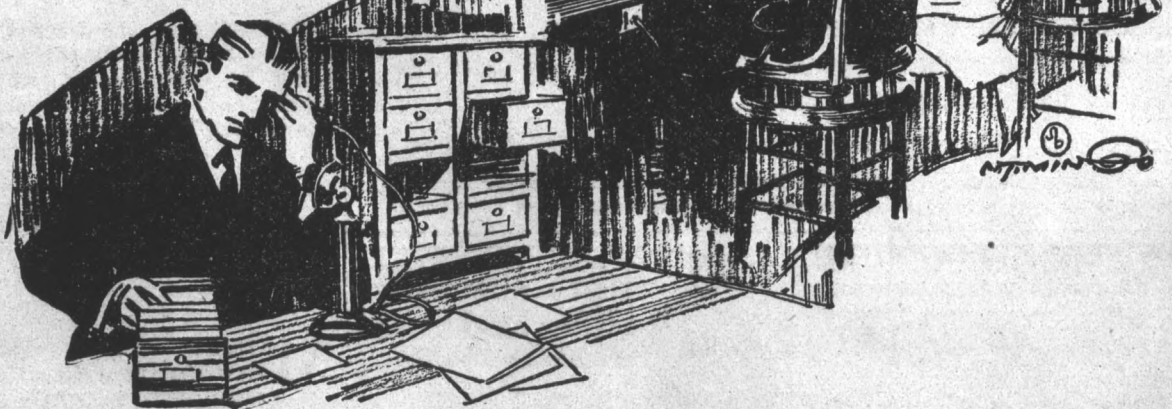
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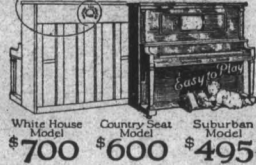
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The Pathfinders

Father Allen Makes Good

By Alta L. Littell

MOTHER ALLEN scurried in one morning—Mother Allen always scurried—to get a pint of starter; hers had soured. Milly was just taking her hands out of the bread to go out and mail some letters. Ab was due in just two minutes.

"Why don't you let Tommy mail them? He's right here picking morning glory seeds," Mother Allen asked. "I'll call him."

"No, don't," Milly interrupted hastily. "He might—maybe he wouldn't like to be bothered."

"Why, the idea! He'd love to mail them for you," Mother Allen answered. "I'd rather mail them than not," Milly insisted. "I—I need the fresh air."

Mother Allen picked up her starter and departed. Milly thought Tommy couldn't be trusted; it was time to bring the real culprit to justice. Father Allen came out of the house just then with a pail of kouyms and started for the field.

"Why don't Milly send Tommy with her letters?" he asked, "picking posy seeds ain't so important he couldn't stop to run errands for her."

"I guess she thinks she can't trust him since he lost her letter to the bank," Mother Allen answered.

"Wh-what letter?" Pa turned a greenish-white. "I didn't know nothing about Tommy's losing a letter."

"No, I didn't think you did," Ma said dryly. "I had an idea you just dreamt Tommy lost it and you found it and sent it on. Some dreams are so real they seem just like true."

"I don't know what you're talking about." With an heroic attempt at dignity Pa turned to go.

"You stay right where you are till I'm through with you," Mother Allen commanded. She drew forth an envelope and took from it a triangular bit of mottled green paper, slipped into a corner of a thick, cream colored envelope, and held the incriminating evidence under his nose. "I didn't dream this," she said, "and I didn't dream the doors were locked when I got back from Milly's the day Abbie Brown was here, and Tommy and I didn't dream you took a couple of Milly's letters away from him one day to mail yourself. I don't know how this stuff got in the grass down by the mail box, but it ain't a dream."

Father Allen tottered to the field as Mother Allen, having "said her say," went into the house. Leave it to Ma to find you out! He dropped down in a fence corner under the shade of a clump of elder bushes and fortified himself with a long pull at the pail of kouyms. If Ma knew, of course Milly

did. He could not understand that, while Ma might have no compunctions about baring his sins to his own eyes, she might feel reticent about being so frank with anyone else. As a matter of fact, no one, not even Tommy, knew that Ma thought Pa anything but the noblest work of God. What a poor, worthless critter Milly must think him. He groaned and reached for the kouyms pail. His distress was thorough, though it must be admitted that it arose from the certainty that he had forever lost caste in Milly's eyes, and not from any remorse over opening the letter and laying the blame on Tommy.

He would have to talk to Milly, try to square himself, he decided, as he arose and went to work.

Milly, deep in supper preparations, was surprised to see him come into the kitchen that afternoon, hat in hand, a sure sign that something unusual was in the air.

"You don't want to be too hard on Tommy about that letter," he moistened his lips and rubbed his forehead with the back of his hand. "He didn't—"

"O, that's all right," Milly shrank from discussing the affair. "It's all over now, and the sooner we forget it, the better."

"Yes, if you would forget it," Pa blurted, "but I know you'll always hold it against me for opening it and trying to lay it off on Tom. You despise anything underhand."

"You opened it," Milly blazed. "And Tommy didn't lose it at all."

Pa sank weakly into a chair. She had never known. He could feel her eyes on him, scorching, burning. She must see him shrieking. It dawned on him suddenly just how contemptible he had been.

"Yes, I did, and I ain't going to make any excuses." He threw back his shoulders and looked her straight in the eyes. "I was a poor miserable skunk, and no mistake."

Milly's wrath lessened. She began to make excuses for him herself. It was easy to see just how he might be tempted to open a letter to a bank; she was beginning to learn how much money means when you lack it, to understand the abnormal interest where it is concerned, the greed for it, not for the sake of its possession, but because life without it is so barren. She held out her hand impulsively.

"You were all that and then some," she agreed heartily, "but I'll bet all the money that draft called for that you are going to be a man from now on."

Lessons In Health Culture

2—Importance of Proper Breathing

By Ruth Selby

MODERN science confirms the view that to interfere with one function is to embarrass all—strengthen one is to strengthen all. But if life depended upon the health and vigor of any one function more than any other it would certainly seem that that function would be respiration.

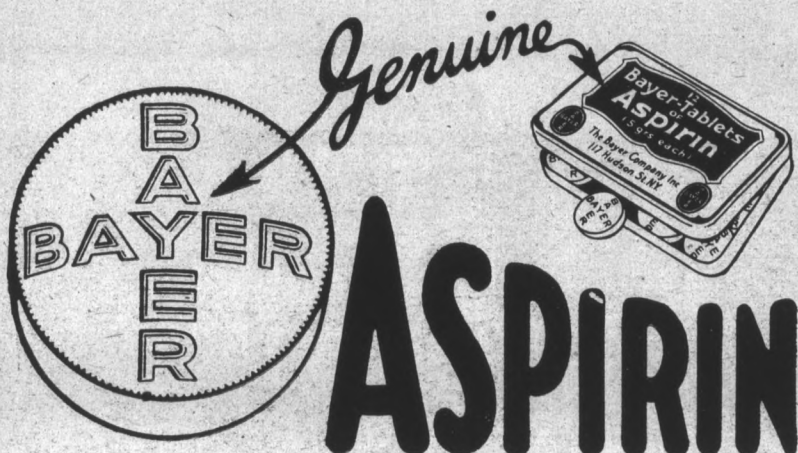
Man may live many days without food. Without air he will die in a few minutes. Of all essentials to life oxygen of air is most important and oxygen is obtained by breathing.

The blood circulates through the body, collecting as it goes, the poisons formed by the breaking down of tissue. These poisons the blood carries to the lungs where they are given up

and exhaled in the form of carbonic acid gas. It is estimated that one-third of the waste and poisonous matter resulting from change of body tissue is excreted through the lungs. This fact shows the importance of deep, full inhalation, for by the oxygen of the air are the broken-down tissues repaired and built up.

In the infancy of all young animals the breathing is about perfect. But in the growing and mature years of the human, careless attitudes and carriage, injudicious dressing, etc., all affect this life-sustaining function. Corsets, belts and high, close collars in past years caused injury to the health of many women and girls. Now that

(Continued on page 197).



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The Soul of an Immigrant

Our Weekly Sermon—By N. A. McCune

SOMEWHERE in the good book it says, "Do no wrong, do no violence to the stranger, the fatherless or the widow." After one has read "The Soul of an Immigrant," by Mr. Panunzio, as the writer has, he will be inclined to the belief that many an American is doing a good deal of violence to the strangers who come to live among us. I have read this book with intense interest, and I have resolved as I hope others have, that I will never be guilty of doing anything to interfere with the advancement or the happiness of foreigners who come to America. To make such a resolve is good citizenship, good Americanism and good religion.



Of course, there are folk aplenty who will say, but what of these wild-eyed agitators who come spreading radicalism and social unrest? The truth is, as investigation has shown, that many of these men, although, of course, not all, have learned these theories in America. Neglected by intelligent citizens, forgotten by the church, with no access to the best homes of Americans, they have been the prey of agitators and political schemers. As McCarthy writes recently:

"Call him a dago, a hunkie, a wop; Treat him as someone insane or inferior; Turn up your nose at his house or his shop, Show yourself thus his decided superior. Sneer at his gestures and laugh at his speech, Always applaud when your funny man guys him, Then when you've widened and deepened the breach, Weep that you cannot Americanize him!"

This Italian lad, Panunzio, tells experiences that explain many things about our immigrant population. Left in Boston harbor without a cent and without knowing a word of the language, he had an uphill path. Applying for work at an agency, he was sent to the lumber woods of Maine, far from the railroad. Unable to carry on the severe labor of the lumber camp he and a French lad left. Of course, they received no pay.

THE captain of the lake steamer refused them passage, because they had not served their time in the camp. They learned that this was a device of the company to compel men to remain in their employ. Building a raft of logs, he and his French companion made their way across the lake. (Neither could speak the language of the other. They talked with their hands). At last our immigrant got a place on a farm at fifteen dollars a month. He worked, very happy in the thought that he was earning enough money to pay his steerage passage back to Italy. He engaged passage on a vessel. On asking his boss for his pay, he received five dollars—five dollars in place of ninety. His heart full of disappointment and hate, Panunzio left the farm. He tried to buy a railroad ticket but did not have enough money. Someone suggested that he ride on the back of the engine. He did so, not knowing that it was against the law. When the train stopped he got off and spoke a few words to the engineer. After the train started he saw the baggage car door open and felt himself pulled into the car. Here, he thought, at last, are some friends.

He talked as freely as he could in his new language and told the train men all about himself. At the next stop he was put off, and was taken in charge by a man with brass buttons on his coat.

Thought the young Italian, this man must be a very fine man to be so friendly to a stranger. He was taken into a dark, forbidding room, the door was closed and locked on the outside. Then he saw bars on the windows. Not till then did he realize he was in jail. He was frightened and crushed. Doing what people told him to do, he had been seized by the law. Cheated out of his pay by one American, he is misdirected by another, and cast into jail. He cried nearly all night. "What would they really do to me? Would they burn me? Hang me? Shoot me?" On the walls was writing in Italian saying that if a man ever got put in that place he would never come out alive. It seemed ages before day dawned. He had not slept at all. The door was opened and a man came up to the bars. The frightened lad stepped forward, thinking someone had come to befriend him, whereupon the man spat in his face, and went away. Children came in and threw stones at him. At last he was taken before the judge, who proved to be a kindly, discerning man, who directed the policeman to buy the forlorn lad a breakfast, get a ticket and put him on the train for the town whence he had come.

THE next experience our immigrant friend had with Americans was to fall in with another farmer, who was a bootlegger. (It was in Maine). After leaving this double-faced rogue, Panunzio got into a good type of American family. The father, mother and daughters went to church, there was Bible reading in the home, and Sunday afternoon was made bright with the singing of songs around the piano. There was a revival meeting, and while the Italian could not understand a great deal the preacher said, he was much impressed, and the impression became permanent. He saw in this, home his first Christmas tree. He spent five dollars, all the money he had, for presents for the family. On the tree was a little present for him, a copy of the New Testament. He had never seen one before. It was in English and he began to read it. But soon he found there was more to it than the language, and he began to commit much of it to memory. Sitting in his cold room, he would get whole chapters by heart.

One day a great event occurred. It was only a simple remark, made by the man with whom he lived, as they were cutting wood: "My boy, you ought to go to school." The next day he packed up his things and started, as usual without any money. In another town a policeman showed him real kindness by writing a letter to the principal of the academy where he was going, and then telling him to copy it. While he waited for an answer, the officer took him to a good boarding house. He arrived at the academy with seventy-five cents in his pocket. He graduated three years later, having won the state intercollegiate oratorical contest. He did not stop there. He went on, first graduating from college, then from one of the largest universities in the land. He became a citizen of the United States. He rendered great service in the Italian army during the war, by speaking to the soldiers about the reasons why America entered the war. Mr. Panunzio is today a minister in one of the great denominations.

Why does any healthy person want to be kicked into wakefulness in the morning?

Many people feel that they have to be agitated into wakefulness in the morning. They think that without the tea or coffee they take in the morning that they will not be able to meet the tasks and duties of the day.

Nothing could be more false than this reasoning. Any doctor can tell you this. For a healthy body does not require a stimulant. It gets all the stimulant it needs from food.

The thein and caffeine found in tea and coffee are irritating to the heart and nervous system. They jolt the nerves into undue activity. The result is a reaction. This is why regular tea and coffee drinkers think they must have their stimulant the first thing in the morning to wind them up for the day.

If you will stop using tea and coffee for a week, and drink Postum, the pure cereal beverage instead, it will give Nature an opportunity to rid the system of the irritating substances that harass your nerves, upset digestion, increase your heart action, and make you nervous and irritable.

Many people who have tried Postum say that inside of a week they wake in the morning without that "all gone" feeling that they used to have, and are full of energy, strength and endurance.

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I cannot find pleasure with a man whose palate has quicker sensations than his heart.—Anon.

Woman's Interests



The Best Woman's Congress Ever

CONGRESS of Housewives for 1922 at the Michigan Agricultural College may well go down in history as the most successful of all in point of attendance, programs and method of handling the visitors. Maybe some farmer got away without his wife or daughter, but to the unbiased observer who watched the crowds surge through the buildings, study the exhibits, and listen to the wit and wisdom of the speakers, it looked as if at least half of the visitors were women.

As to the program, no phase of the home-maker's work was left out. She was advised as to nutrition, clothing, feeding and nursing, even given a lecture on "Art in the Home," by Prof. A. G. Scheele. But nobody told her to play. With all the winter's skating and coasting and "Bob" riding going to waste, it seemed too bad that nobody advised mother to don knickerbockers and hockeys, and go out and renew her youth. That, and a word as to the hundred or so "best sellers" for the stormy days and evenings would mean a winter vacation for the women who get little time to take one in summer.

The idea of lectures for all women in the morning, and various conferences in the afternoon proved a popular one. From 9:00 a. m. until noon the women met in the People's church, where lectures were given on practical subjects. From 1:00 p. m. until 5:00 p. m. men and women met together in the gymnasium, while from 4:00 p. m. until 5:00 o'clock conferences on nutrition, clothing, millinery, dyeing, dress forms, etc., were held in classrooms in the Women's Building. The conferences were in charge of college workers, Prof. Rebekkah Gibbons, of the home economics department, and Miss Muriel Hopkins of the extension department, being in charge of nutrition; Miss Helen Arms, children's clothing; Prof. Emma Garrison, millinery; Prof. Marion Tucker, textile tests, and the home demonstration agents and household economics students, of dress forms. During the week Prof. Osee Hughes gave a demonstration on pastry making, and every afternoon a meat canning demonstration was given in the agricultural building. A demonstration of home dyeing was a feature of Tuesday.

The closing day was featured by a talk by Miss Neal Knowles, head of extension work in Iowa. Miss Knowles was a member of the agricultural conference, and gave a report of the work accomplished by that body. She called attention to the fact that the committee of the farm home, of which she was a member, was made up of eleven men and eleven women, thereby emphasizing the fact that the men must share the responsibility of home-making equally with the women. The committee adopted several resolutions, among the resolutions approving the work being done to safeguard health; to develop agriculture and social life through cooperative study and in boys' and girls' club work; the appointment of farm women on national and state boards; and the need for agricultural organizations to emphasize in definite

programs the study of food, child care, health, and everything that adds to the beauty and comfort of the home.

Following Miss Knowles' address the home economics students put on a play in the parlors of the Women's Building, "The High School Girls' Clothes Lines." The skit was written by Prof. Marion Tucker, of the home economics department, and brought out the idea of a definite plan—and a budget for supplying the high school girl with suitable clothes. Prof. King, of the English Department, and Professors Tucker and Bayha, of the household economics department, directed the play.

Miss Helen D. Grimes, instructor in physical training, gave daily talks on suitable exercises for developing the body and preserving the health.

One of the most popular spots on the campus was the practice house, where senior girls are initiated into the mysteries of home-making. The house has been furnished by the girls themselves, with money donated by the alumnae. As only one thousand dollars was given, the girls have had to do close figuring and intensive shop-

ping to furnish the ten-room house. The best of beds were bought, as a good night's rest is so essential to perfect health, and visits to second-hand stores and old barn lofts brought out old dressing-tables and bureaus which the girls themselves refinished with satisfactory results. Many hints for drapes and bedspreads were picked up by the women visitors. Here each af-

ternoon, Dean Sweeny, Assistant Dean Kirby, and Mrs. Louise Campbell served tea, while in the parlors of the Women's Building Dean Savage and students received guests.

Delightful lunches were also given in the practice house to board members and speakers. Those who were lucky enough to be present at one of these perfectly cooked and daintily served affairs have no doubts as to the ability of the college girls along lines nutritional.

Is Your Work Drudgery?

By Ella E. Rockwood

WE read a great deal in the magazines and newspapers about the drudgery of housework, but as a matter of fact, that is the only way we do hear anything about it, for it is rare indeed to hear women complaining of it. Perhaps such a thing exists, but if so, the victims are not especially keen in talking of it.

No matter where we live or what our surroundings, most of us have a certain amount of work to do. If there exists a person who is idle, that one is to be pitied rather than envied, for

their chance of happiness is far less than for those who have plenty to do. Granted that some women work very hard in their homes, that hours are long and tasks exacting, even then it does not necessarily mean drudgery, for work, be it ever so hard and monotonous, if it is performed in the proper spirit, can never be that.

Webster defines a drudge as one who labors hard at uncongenial tasks. Housework may be hard, but it should not be uncongenial when performed in our own homes for the comfort of our loved ones. If it is so, then there must be something wrong with our attitude toward life. It must be a sorely discouraged woman indeed who willingly admits that her housework is uncongenial.

As for the monotony, anything becomes monotonous if performed unvaryingly day after day. Think of the long tiresome hours on one's feet behind a counter serving an exacting public, matching shades, measuring off goods, listening to the complaints and criticisms of a string of customers all day long, checking in and out by the clock year after year for a stipend often barely sufficient to provide the necessities of life, and to my mind you have a picture which spells drudgery plus monotony with a degree of accuracy far exceeding that of housework under any ordinary circumstances.

The mere preparation of three meals a day, even when multiplied by three hundred and sixty-five, is not at all appalling when one stops to consider that they come only one at a time. As for washing dishes, it should be not at all an unpleasant task if gone about in the right way. With each piece scraped clean, and piled neatly in stacks close at hand, plenty of soft hot water, clean towels and soap, with a work-table roomy enough and high enough to enable one to stand before it is as easy as can be, and quite fun to watch the clock and see how quickly the job can be finished. This brings to mind the habit of dawdling that some women have. They will sit at the dinner table dreading the dish-washing long enough to have had it all finished. Resting? Very true, but the longer any task is put off, the more it is dreaded. The wise woman attacks her work bravely, gets it out of the way as speedily as possible and



Was It a "Better Sire" Train?

IT was called a better sire train when it toured Michigan last August, but it is just possible that so far as results are concerned it may develop that it was really a better children train, after all. This much is certain, that because of things which she saw and heard on that trip, Mrs. Louise Campbell, head of the home economics extension work in Michigan, has put on a campaign this fall and winter which has interested 30,500 children in better health.

The work is carried on by means of a series of lessons sent to the teachers of rural and suburban schools. Starting with a lesson on milk the course follows with the Big Breakfast Story, the Vegetable Story, the Rest Story, the Knick-knack Story, the Teeth Story, the Three Big Meals a Day Story, and the Fruit Story. A lesson outline for the teacher is furnished which aids her in graphically illustrating the idea. For instance, in the knick-knack story the teacher sketches the stomach, and leading to it—between breakfast and dinner—a bit of candy, a cookie, a piece of pie, and maybe bread and butter. The children see at once that when 12:30 comes they will not relish a hearty dinner. Charts are also furnished with a space for the children's names to be followed by gold stars for those who carry out the teaching of the lessons.

Already reports from teachers are

coming in to show that the work is bearing fruit. In one school in Kalamazoo county seventeen children made a gain of fifty-one pounds in weight in one month. In Barry county ten children consumed sixty gallons of milk in November; in another school sixteen out of eighteen children began drinking milk, while in another twenty-five out of twenty-seven took up milk. In other schools it is the rest story, advocating ten hours nightly rest for children, which makes the appeal.

Occasionally the scheme meets with opposition, of course, but in only one or two schools. In one the children are themselves antagonistic, while in another the parents refuse to cooperate. Over against this, however, are records of parents who have begun to buy milk for the children as a result of the lessons. In a Gratiot county school after milk drinking began the children registered a gain of two and one-half to three pounds per month.

The work has been introduced into 1,694 schools in twenty-eight counties, by Miss Mariel Hopkins, nutrition expert with the extension department.

Miss Helen Pratt, former home demonstration agent for Cheboygan county, has been engaged by the extension department of the Agricultural College, as assistant specialist in food and clothing.

rests afterward. Dawdling is expensive if one's time is worth anything.

My argument is that women should not look upon their work as drudgery in the first place. It is all in the viewpoints. Work, even hard work and drudgery are not necessarily synonymous terms.

System is a great help in any home. Have a rule for general guidance, even though it has to be broken occasionally. If by any means the washing can be done on Monday it leaves a nice long week for other things, even if Tuesday does not witness the finish of the ironing. The mending fits in nicely for pick-up work of an afternoon, when a change from standing to sitting is an agreeable rest. Like most other kinds of work, mending is not such an unpleasant task if attacked in a determined manner. All this talk about deadly monotony and drudgery is largely a bugbear, and like all bears of that species, there is nothing tangible to it. There exists no human being outside of a prison who cannot vary their labor and bring into their lives something to bar out monotony if they try. It is the spirit which gives life, and it is the spirit with which we go about our work which determines whether it is to be drudgery or a joy.

Listen to what Henry Van Dyke says about work:

Let me but do my work from day to day

In field or forest, at this desk or loom,
In roaring market place or tranquil room;

Let me but find it in my heart to say

When vagrant wishes beckon me astray

This is my work; by blessing, not my doom;

Of all who live I am the one by whom
This work can best be done in the right way.

Then shall I see it not too great nor small

To suit my spirit and to prove my powers;

Then shall I cheerful greet the labor-hours,

And cheerful turn when the long shadows fall

At eventide, to play and love and rest,

Because I know for me my work is best.

LESSONS IN HEALTH CULTURE.

(Continued from page 194).

they dress more sensibly and comfortably it would seem that they should have far better health.

Why not adopt the sensible and happy medium? Do not be an extremist, but have no restriction of the neck, chest and waist to interfere with diaphragmatic breathing. The diaphragm is a large muscle lying below the heart and lungs and above the stomach, liver and intestines, and when we breathe deeply this organ moves with each inhalation from one to three inches, massaging all the internal organs as they are in no other way.

The results of deep breathing and normal use of the lungs may be stated as follows: Increased nutrition and elimination. Healthy condition of the lungs themselves and their mucous membrane and the bronchial tubes and throat.

Improved digestion and assimilation and stimulation of all the vital functions.

Increase in energy and endurance. Clearness of the complexion and brightness of the eyes.

Gain in weight, where it is below normal, and the filling out of hollows in neck and cheeks.

All these results are due to improved nutrition and elimination.

If you acquire the habit of drawing in a few deep, full breaths at frequent intervals during the day, first expanding the abdominal region, you will soon be able to breathe properly. With the correct position, as you already know

is important, and no restriction about the waist, chest or abdomen, you will almost instinctively be inclined to breathe diaphragmatically. A certain amount of chest breathing is also important. It plays a large part in chest development as well as strengthening the lungs.

Those who have an inherited tendency to consumption should lose no time in forming the habit of deep, forced respiration. For air, pure and plentiful is their salvation. They should also guard against acute colds by properly clothing themselves and avoiding sudden changes of temperature and draughts and too much exposure to damp air. No matter how cold the air, if it is dry and pure it is healthful and can do no harm if the body is well protected.

I give below three exercises which are excellent lung expanders while they improve the health and also the voice. I think anyone who desires to sing will realize improvement in the voice by practicing them a few minutes daily.

Exercise No. 1.—Stand, erect, without strain, arms hanging easily at the sides. Now gently inhale through the nostrils, at the same time lifting arms straight out at sides and so timing their movement that when the lungs are fully inflated, the hands meet, the thumbs touching over the head. Slowly raise the face upward while the arms rise. Then without holding the breath, exhale gently, sweeping the arms, hands together, forward, so that when the exhalation is complete they shall be hanging at the sides.

Let extreme gentleness and slowness be observed in this exercise, avoid all haste, don't force the air into the lungs, just let it flow in.

Exercise No. 2.—Stand easily, with hands at the waist, thumbs back. Now let the head fall on the chest, then the chest sink as you bend limply toward the floor. The important things to remember about this exercise are, relaxation of the body above the waist, and slow, deep, gentle inhalation, through the nose while bending forward, and slowly exhaling while you rise.

Exercise No. 3.—Stand easily, with backs of the hands gently touching the back just below the shoulder blades. Bend forward limply as in preceding exercise, inhaling through the nose, allowing the breath to expand the back, pushing the hands outward and further apart. Exhale gently while rising, carrying head backward and bending the back just where the hands touch it, allowing them to come inward and close together, while the head hangs limply between the shoulder blades.

These three exercises have a wonderful effect upon the tone and power of the voice by enlarging the chest walls and making them flexible.

THE SOCIAL SIDE OF TEA.

IN Japan and China tea drinking is a part of their religion, their enjoyment of life and their sign of courtesy. At first it was a woman's pastime but now it is used universally, even in the soldiers' camps.

These people think that tea drinking encourages calmness and serene outlook on life and when deep thinking is necessary tea drinking usually accompanies it.

In America we use no drink which is associated with higher mental qualities. All our social drinks (supposed to be of the past now) tend to lead us to verbosity rather than calmness and quietness.

We, in America, do not know how to use tea yet. Other countries have learned to enjoy it more than we have. For instance, England used seven pounds per person in a year, whereas we use only one pound. Because of our strenuous living tea could undoubtedly replace other drinks to advantage.

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Barred Rocks Exclusively cockerels bred from M. A. C. championship show, \$3 and up. Rosemary Farms, Williamston, Mich.

Barred Rocks, W. Wyandottes, R. I. Red cockerels from bred-to-lay stock.

HOWARD GRANT, Marshall, Mich.

Our Boys' and Girls' Department

Five Corners' Pig Club

By Sidney Phillips

I STARTED in club work three years ago when I purchased my first registered Duroc gilt. During the first year a number of the members overfed their pigs and made them too fat and as a result their pigs were down in the pasterns. Some of the pigs were bothered with lice, which were soon gotten rid of with some old worn-out cylinder oil taken from a car.

That fall the boys bred their sows to a registered boar owned in the neighborhood, which was the best one available. In the spring some of the fellows had small litters, due to keeping the sows too fat previous to breeding. Here was where I came in, my sow only farrowed four pigs and saved just two of these, which I believe was caused by her being too fat the previous fall, and was the main reason why I did not get in on the prize money at the Eaton county fair.

After learning this "knack" of the business I proceeded to feed the two gilts which I raised. The next fall I won the \$25 gilt offered by the State Duroc-Jersey Association for the boy or girl who showed the first prize gilt. This pig I received in January and at this writing has eleven fine pigs.

Last fall the club decided to buy a sire of their own and in this way get a start towards the control of the breeding of their stock. We arranged with a club member's father to care for the hog. He was to be compensated by having his own service without charge. The hog was of the new type and made an excellent cross with the stock which we had. This was a step which very few clubs have taken in this state.

At about this same time our club decided to have a name appear in all pedigrees from our club, the same as the large breeders do, such as Brook-

water Farms. Instead of using Brookwater we used Brookfield, which is also the name of the township in which the most of us live.

This year our club exhibited over twenty head of stock of all ages, at the Eaton county fair, which was about one-sixth of the entire swine exhibit. Part of the pigs were also just on their way back from the State Fair at Detroit.

Some of our members are contemplating a bred-sow sale next year which will probably be our next step.

—SIDNEY B. PHILLIPS.

TO THE MEN OF RURAL AMERICA.

You talk of your breed of cattle,
And plan for a higher strain;
You double the food of the pasture,
And heap up the measure of grain;
You draw on the wits of the nation,
To better the barn and the pen,
But what are you doing, my brother,
To better the breed of men?

You boast of your Morgans and Herefords,
Of the worth of a calf or a colt,
And scoff at the scrub and the mongrel,
As worthy a fool or a dolt;

You mention the points of your roadster,
With many a "wherefore" and "when."

But, ah! are you counting, my brother,
The worth of the children of men?

And what of your boy? Have you measured
His needs for a growing year?

Does your mark as his sire, in his features,
Mean as much as your brand on a steer?

Thoroughbred—that is your watchword
For stable and pasture and pen,
But what is your word for the home-
stead?

Answer, ye breeders of men!
—ROSE TRUMBULL.



Club Members Judging Pure-bred Hogs.

Poultry Project Pays

MY first attempt at club work met with some success. When a poultry club was organized at Stephenson, Menominee county, Michigan, I became one of its members. Poultry raising being my hobby.

The club was organized under the leadership of Professor Kebler, of the Menominee County Agricultural School. The school furnished each member of the club with settings of eggs and the club member had to give the school one pullet in return.

I received two settings of Barred Rock eggs with twelve eggs to the setting. On the fourth of May I set the eggs under two hens in a warm dry place. On May 25, thirteen of the eggs hatched. The remaining eleven

were infertile. Three chicks died inside of two days, and a hawk took another one, leaving nine chicks. The first few days I fed the chicks sour milk, bread crumbs, hard boiled eggs and later chick feed.

Two other members and myself attended the Club Camp held at Chatham, Michigan. At the judging contest held there, the team took first place and I won the championship of the upper peninsula. As a team we won a trip to the State Fair held at Detroit and I received a pen of purebred Barred Rocks.

The State Fair was held from the second to the eleventh of September, but we left Stephenson on the sixth of September, accompanied by our

leader. After a rather enjoyable trip of twenty hours, we arrived at the metropolis of Michigan. We spent two days on the grounds and spent most of our time sight-seeing.

Through the courtesy of the Michigan Farmer, we were given a sight-seeing trip through the city and Belle Isle. One day was spent at the capital of the state, Lansing. We visited the capital, where we were conducted through the grounds and building of the Michigan Agricultural College. Another day was spent at Chicago where we visited the Marshall Field Museum.

We arrived home on the twelfth of September, tired but happy.—MILTON COREY.

A ROUND-ROBIN LETTER.

A COMPLETE copy of both the statistical and narrative reports of the 1920 doings of the Boys' and Girls' Clubs of the state has just been sent out to the county club agent as a "Round-Robin" letter. This plan was tried for the first time in 1920 and proved to be a great success. The report is read by the recipient and then sent on to the next club, according to the schedule which is contained in the letter.—T.

NATURE NOTES.

The love of nature leads us along the paths that lead to happy tomorrows. Questions and answers on nature subjects will be printed in this column often. Young folks are invited to send in their perplexing nature problems.

Where does the humming bird nest, and what garden flowers will attract it?—G. K.

The nest, which is a beautiful structure, is "saddled" on the branches of trees, from ten to fifty feet from the ground. Also in the honeysuckle vines on porches, and in bushes. The writer had a trumpet vine twining about the trunk of an elm in her garden, which attracted a family of humming birds. All the "deep cup" flowers, such as honeysuckles, nasturtiums, petunias, morning glories, cardinal flowers, columbias, and others, will attract the humming bird.

Which is the first spring flower: the hepatica or the skunk cabbage?—R. S.

Of course, the skunk cabbage, which seems so plebian that it ought not to be classed as a true flower, may precede the hepatica, but as a rule the hepatica may be considered the first flower to bloom in the spring. The hepatica is also known as squirrel cup, nable liverwort, liverwort, and also as liver leaf. Its preferred habitat is the woods or the light soils on hillsides. Its exquisite blue, lavender, purple, pinkish blue, and many times even white blossoms peep out from under the snow in late March and April. As soon as the late winter sun warms the woods and hillsides ever so little, the hepatica usually responds and pushes forth its blossoms. This flower is very interesting to study inasmuch as no two clusters are alike. They are all shades of purple and blue, and they are of various sizes. They would be most beautiful to the eye at any season of the year, but they are especially so in the very early spring. Sometimes they are quite fragrant also, but you must try each blossom out until you find the perfumed one. The odor, I would say, is much like that of the violet.—PAULINE WARD.

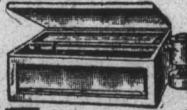
Fear is one of the most withering curses of all ages. Don't try to scare a child. Cultivate his hope, faith and courage. He will need these qualities later. The fact that they are rare does not lessen their value.

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25c—will bring you semi-monthly utility farm poultry newspaper one whole year as trial. **POULTRY GUIDE, Box D, Montpelier, Indiana**

Rabbit Round-up

By R. G. Kirby

FOR the first time in the history of the Round-up Institutes at the College, the rabbit breeders staged a fine show and lectures on rabbit breeding. Exhibits of New Zealand Reds and Flemish Giants were of excellent quality. Rabbit furs were also displayed and attracted much attention.

The lectures on rabbits were given by Judge George C. Eckert, of Chicago, who is secretary of the National Breeders' and Fanciers' Association of America. He advised beginners to buy good stock, using one male and three or four females for the foundation breeders. The period of gestation of the rabbit is thirty days and the average litter, eight young.

Judge Eckert considers the different breeds of rabbits very similar in quality of meat and fur. The matured Flemish Giant may weigh as much as twenty-one pounds but a rabbit weighing eight or nine pounds is best for home use. The best hutches are the movable style which are kept outdoors about two feet from the ground. In winter a curtain can be dropped over the front at night.

Oats, carrots and hay are the best feeds for rabbits with possibly a little corn in cold weather. More hay should be furnished in the winter. Water is necessary twice a day.

Beginners are advised to buy breeding stock near home when good rabbits can be obtained. Judge Eckert is opposed to high-priced stock and believes that very satisfactory breeders of excellent quality should be obtained at prices around five or ten dollars each. The buy-back plan is also condemned and breeders are advised not to pay high prices for very ordinary stock in the belief that a successful business can be developed stilling the offspring back to the original seller.

The department of agriculture will send a very interesting booklet on rabbits free to prospective breeders. The department became interested in rabbit breeding in 1914 and now have about three hundred rabbits. They are making a special effort to develop high class rabbit fur.

Rabbits are now selling for fifteen cents per pound, live weight, in Chicago, and six to eight pounds is the best weight for stewing. A rabbit can be dressed quicker than a chicken and the tame rabbit can be eaten every month of the year. This is contrary to the opinion of many who have disliked to eat rabbit meat except during the hunting season and in the winter. However, the tame rabbits find a ready market when properly dressed at all seasons, even during the hottest weather. Grubs do not occur in tame rabbits.

Rabbit Fur.

Judge Eckert reports they are now paying thirty-five cents per pound for rabbit hides. Fine hats are made from rabbit fur. Electric seal and imitation muskrat also come from rabbit fur. Very fine Sealine coat collars are made from Flemish Giant fur. Clipped and stained rabbit fur is sold for imitation ermine. Alaskan seal is only a trade name for rabbit fur. All of these furs were exhibited at the Round-up and were interesting to rabbit owners who have inquired the prices of even medium quality furs at the leading stores.

Good leather can be made of rabbit skins. A solution for tanning can be made of one pound of alum, two pounds of best grade salt, and quarter-pound of borax. This can be used dry or as a liquid mixed with one quart of water. All the fat must be removed from the hide. The hides should be rubbed well to make them soft, and sweet oil is good to soften the hide. Fresh hides can be tanned quickest.

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HA! HA! { 75,000 12c and up } **CHICKS** Buy Hi-grade Profit Paying Bred-to-Lay Chix. From tested egg strain. Best foundation stock ever produced. Hatching eggs, ducklings, 10 varieties. Cir. stamps appre. **Laurence Poultry Farm,** R. 7, Grand Rapids, Mich.

RURAL BABY CHICKS

S. C. English strain White Leghorns, Brown Leghorns, and Anconas. Free range stock. Satisfaction and safe arrival guaranteed. Get our prices before you buy. Catalogue free. **RURAL POULTRY FARM & HATCHERY,** R. 1, Zeeland, Mich.

Rhode Island Reds R. C. Large fancy cockerels at \$3 each. **BURT Sisson,** Imlay City, Mich.

The rabbit business is spreading, not as a boom which will soon fade out, but as a safe sideline and a good hobby for the farm boy and girl. In Los Angeles and Santa Barbara, California, a course of instruction is given in the high schools to those who wish to study rabbit breeding. California is now the leading state in rabbit production, and Ohio is second.

MATING GEESE.

How long must one have a gander before the eggs will be fertile? We bought a gander March 1, and the geese began to lay in April but not one of the eggs hatched.—E. R. A.

It is safest to purchase a new gander early in the winter as they are sometimes slow to mate. Sometimes matings are not a success. It will pay you to observe the flock to determine if the birds are mating. Possibly the eggs that are produced from that date may show a good per cent of fertility. Next year it will pay to purchase the new gander, if you need one, by the first of January or earlier.

CARE OF DUCKS.

I wish to raise ducks for market and as I know nothing about them would like you to tell me what breed to get and how to care for them. Do not live near water. Would like the largest kind.—S. L. B.

The Pekin ducks are a fine breed for market and the most common breed for that purpose. The young drakes will weigh about eight pounds and the adult drakes nine pounds. The young ducks will weigh seven pounds and the adult ducks eight pounds.

It is not necessary to be near a body of water to raise ducks successfully, although some find that it saves work and feed in raising ducks if they are near water. This saves the pumping and carrying of water and the ducks obtain some feed from the animal and vegetable life in and about the water.

A good ration for breeding ducks consists of equal parts of bran, corn meal and green food to which is added about five per cent grit or coarse sand and five per cent beef scrap. This can be given three times a day as a moist crumbly mash.

The drinking dishes for ducks should be deep enough so they can dip their bills down deep and also wash their heads and eyes in the water.

HENS WITH ROUP.

Please give me a remedy for my hens. Their eyes water and soon swell so they can not see and some of them have a yellow substance that forms in roof of mouth and on under bill with a bad odor.—E. F.

The symptoms indicate severe cases of roup. It will be best to kill the hens that are in very bad condition as their treatment is apt to be unsatisfactory. Hens with slight signs of colds can be treated by removing the mucus from the nostrils and rubbing the head and nostrils with camphorated vaseline. Washing with a solution of permanganate of potassium is also useful. Dipping the head in a milk solution of some good disinfectant is also beneficial.

Roup is easier to prevent than to cure. It is prevented by having a dry house free from draughts and keeping the hens from the range on rainy and windy days. A balanced ration and plenty of clean scratching litter help to keep up the bird's vigor. But when the odor of roup appears and the hen's head is in bad condition and the bird is half dead, the hatchet treatment is best. It saves a lot of useless doctoring and helps to remove a source of contagion to other hens. The commercial disinfectants liberally used in the poultry house according to directions will help to avoid roup.

Pennock Poultry Farm

Leading pen of S. C. W. Leghorns in M. A. C. Egg Laying Contest. Official records of 255, 234, and 221. Pedigreed Eggs, Day Old Chicks and Stock. Write for Catalogue. Nashville, Mich., R. 2.

STRONG BABY CHICKS

From flocks bred for heavy egg production. We offer Leghorns, Rocks, Reds, Wyandottes and Anconas, 100% live delivery, prepaid post. If you make your living or a part of it from poultry, we can help you. Catalog free. **RANSOM POULTRY FARM,** Geneva, Ohio.

BABY CHICKS 1922 delivery now ready. White Leghorns, White Rocks, Buff Orpington, Buff Rocks, Barred Rocks, R. I. Reds, Black Minorcas, S. C. Anconas. Guaranteed pure bred and live arrival. Postage paid. **DURAND HATCHERY,** Fenton, Mich.

STRICTS POULTRY FARM

Hudsonville, Mich. R. R. 4. Box M. S. C. English White Leghorns. Official records from 9 hens of 208 to 244. Chicks and Eggs. Write for catalogue.

PETHLUMA of the mid-west, English White Leghorns, tested flocks, mated to pedigreed males. Won cup best utility pen, largest class in Michigan. Chicks, eggs, Catalogue free. **Forest-Grove Hatchery,** Box M, Hudsonville, Mich.

Single Comb Buff Leghorn baby chicks. Order now for spring delivery. Send for circular. **Willard Webster,** R. 2, Bath, Mich

S. C. B. Minorca A few choice Minorca Cockerels, great big fellows, sired by R. W. MILLS, Saline, Mich. our 12 lb. cock.

Silver, Golden & W. Wyan. grand winners at Grand Rapids Coliseum show. Choice breeding stock. Prices reasonable. **C. W. Browning,** R. 2, Portland, Mich.

Trap Nested Strain S. C. W. Leghorns. Heavy winter layers, snow white, high on shank, pelvic bones thin and well spread. Baby chicks and hatching. Have few choice cockerels and pullets for sale, shipped on approval. **Leonard Sumner,** R. 2, Box 97, Romulus, Mich.

FOR Sale choice Barred Rock cockerels and pullets, Fekls \$5. two for \$8 and pullets \$2. two \$5. Good large birds. **George H. Campbell,** R. 5, Ypsilanti, Mich.

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WHITE WYANDOTTES

207 egg average. Cockerels \$5.00. Pens \$15.00 to \$25.00. Eggs \$2.00 per 15. **FRANK DE LONG,** R. 3, Three Rivers, Mich

Additional Poultry Ads. on Page 207

Live Stock

ANOTHER TYPE OF SHEEP RACK.

I HAVE just read with interest Mr. Oviatt's feed rack article in the last issue of the Michigan Farmer, and wish to add a suggestion or two from my own experience.

For many years I have used racks of similar construction, only that they are built in small units, thirty-two inches square. The peculiar advantages of these small racks are: First and most important, they entirely eliminate danger from crowding, so injurious to the ewes heavy with lamb. A dozen will feed from one rack, three on a side, jamming and pushing entirely done away with. Second, easily cleaned. Being small and light one can tip over and set back the racks to supply a hundred sheep in three minutes.

Easily moved, one man can quickly shift them. They can be ranged to form a fence if necessary. I do not have a raised board in the bottom, but make the floor level and tight.

I allow one of these little square racks to ten sheep, place them at least four feet from the side of the shed and six or eight feet apart.

One can feed hay, grain and roots in them. A great advantage in feeding grain is that it spreads thinly over the bottom and the sheep can not gobble it up so quickly, for we all know that the sheep, not the hog, is the greedy one of the farmyard. If any one needing racks will make a few of these he will be more than pleased when he tries them out. I don't find it necessary to put upright pieces across the feed aperture.—A. LONG.

KEEP THESE IN MIND.

THE feeder may find the following principles helpful in deciding how to supply his animals with their daily rations:

Small animals require proportionately more food than do larger ones.

To work animals rations should be changed according to the severity of the work performed by them.

Dairy cows should be fed in direct relation to the quantity and richness of the milk produced.

Growing and fattening animals should be fed according to the rapidity of increase desired.

Individual animals have peculiarities which must be taken into consideration when dealing out the daily meals.

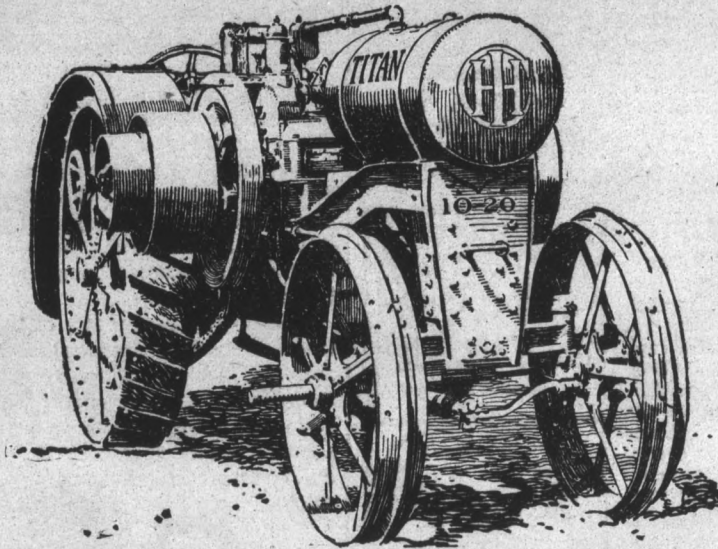
A sympathetic relation between the herdsman and his animals promotes greater thrift and larger production, especially with animals of a nervous temperament like dairy cows.

TUBERCULOSIS ON THE DEFENSIVE.

AT a recent meeting of veterinarians at the Agricultural College the opinion was frequently expressed by persons qualified to speak that through the elimination of tuberculosis from cattle it will be possible to reduce this malady in the human family to an extreme minimum. To bring this about, however, the cooperation of every agent having to do with the health of both humans and domestic animals will be necessary.

In the main the remedy lies in distribution and marketing. Every proper encouragement should be given to the cooperative marketing programs. These have proven very helpful to the cooperative communities in Europe. In Russia the cooperative community has become a recognized bulwark of law and order, and saved individualism from engulfment in social paralysis. Ultimately they will be accredited with the salvation of the Russian state.

\$200 Cut in Titan Price Now \$700 f. o. b. Chicago —and a P & O 3-furrow Plow FREE



THE Titan is not a stripped tractor, pared down to make a price, but complete with all essential equipment—friction clutch pulley, fenders, platform, throttle governor, adjustable drawbar, angle lugs, brakes. This equipment, worth more than \$100 and necessary on any tractor to make it serviceable and safe, is included in the new \$700 price. No extras to buy.

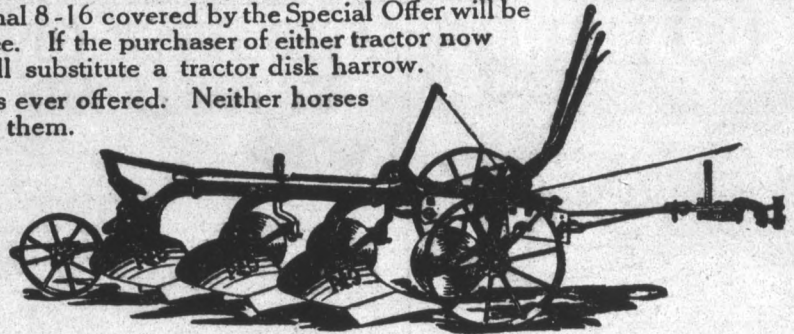
The Titan is a real 3-plow tractor and has belt power in proportion. It has enormous reserve power. Its 3-plow capacity cuts the labor cost on every field operation—a big item in farm operating expense. Titan is famous for long life. It has proved in eight years of use that it outlasts two or three small inferior tractors. Does best work on cheap kerosene. Low repair and upkeep expense. Always on the job.

\$230 Cut in International 8-16

The International 8-16 tractor now sells for \$670, f. o. b. Chicago. Until May 1, 1922, each purchaser of an International 8-16 covered by the Special Offer will be given a P & O 2-furrow plow free. If the purchaser of either tractor now owns a suitable plow we will substitute a tractor disk harrow.

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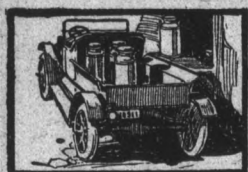
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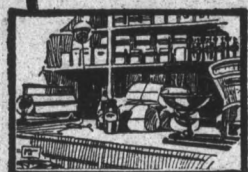
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SKIM MILK TO GROW ANOTHER CROP



Calves



Pigs



Chickens

Dairy Farming

Skim-Milk Tops the Feed List

By Earle W. Gage

THOUGH few farmers seem to appreciate the fact, skim-milk, a common, too often wasted dairy by-product, is a composition of body-building combinations not contained in any concentrated ration that can be mixed and fed. In face of these facts, demonstrated beyond the experimental stage, we find in many dairy communities skim-milk being poured into the creeks and sewers, because its value is unappreciated.

And so the real value of skim-milk, from a feeding standpoint, for farm animals is very often overlooked by those who are fortunate enough to have this product on their farms. Quite a few breeders of live stock, especially dairy farmers, when using milk for raising their calves, use skim-milk.

The dry matter in one hundred pounds of skim-milk is usually less than ten pounds, but it is concentrated and easily digested, and the elements in its composition are the kinds needed that make them unusually efficient, when properly balanced. These elements are in the approximate proportion: Protein (muscle-building ma-

milk calves, and thirty-two per cent for the calves running with their mothers.

After weaning the whole group of calves were placed in a feed lot and fed the same rations and the skim-milk calves made the highest daily gains and required less feed for one hundred pounds of gain than the other calves. An interesting sidelight of this experiment is that the suckling calves after weaning, lost four pounds in weight each the week following.

For the Hogs.

In hog feeding, the feeding values of skim-milk is perhaps more clearly demonstrated. Everything considered, it is safe to assume of all supplementary feeds, it is one of the very best. It is especially fine for suckling sows, and particularly for the young, growing pigs and can also be used for bred sows, breeding boars and show stock.

A summary of work done by seven experiment stations, comparing corn alone as contrasted to corn supplemented with skim-milk, shows some rather interesting results. The data involves the use of one hundred and



terial), four per cent; sugar, five per cent; mineral matter or ash (bone-building material), nine per cent, and fat, ten per cent. It is, therefore, essentially a protein feed, with a nutritive ratio of one to two and is perfectly supplemented in feeding animals with feeds less concentrated, like cereals, shorts, etc.

There are certain constituents that are absolutely essential to life. Some feeds contain constituents that produce only one essential in the life process, such as growth or maintenance. Therefore, a ration must have proteins or muscle-building feeds, essential for maintenance and growth. Experimenters have found with pigs, particularly, that the growth and maintenance constituents were most available in skim-milk followed by corn, wheat, oats, linseed meal, etc.

Balanced Feeding Pays.

Skim-milk is used exclusively for feeding calves and pigs more than with any other class of farm animals. It is sometimes fed to poultry also. Some people have expressed disfavor on the appearance of calves fed skim-milk and blame this condition on the removal of the fat from the milk. However, in a great majority of the cases the feeder is to blame, as it is usually due to his ignorance and carelessness.

In a trial at the Kansas Experiment Station some time ago with dairy type steer calves, one lot was fed skim-milk, another lot whole milk, while a third lot ran with and sucked their dams at pasture. In addition, the calves receiving skim-milk and whole milk were given equal parts of corn meal and kaffir corn meal with alfalfa hay. The skim-milk-fed calves up to weaning time, made average daily gains of about one-quarter pound less than the other calves. But the total feed cost for all calves for one hundred pounds of gain, that of the calves receiving skim-milk was only 16.5 per cent, as compared to 51.5 per cent for the whole

material), four per cent; sugar, five per cent; mineral matter or ash (bone-building material), nine per cent, and fat, ten per cent. It is, therefore, essentially a protein feed, with a nutritive ratio of one to two and is perfectly supplemented in feeding animals with feeds less concentrated, like cereals, shorts, etc.

Those receiving the milk supplement gained practically sixty per cent faster than the pigs fed corn alone, effecting a saving of thirty-six days in time required to produce each one hundred pounds gain. The average weight of the corn and milk-fed pigs at the close of the feeding trials was two hundred and twenty-nine pounds, that of the corn-fed pigs, one hundred and eighty-four pounds. To have made the latter equal in weight to those receiving the milk supplement would have required forty-three days more.

This summary shows that practically eight hundred pounds of skim-milk saved one hundred and ninety-one pounds of corn, or in other words, a trifle over four pounds of milk is the equivalent to one pound of corn.

There is a limit to the ratio of feeding skim-milk to corn from the standpoint of greatest efficiency of the feeds involved. When feeding corn only and skim-milk, it has been found by several feeders that the skim-milk has its greatest utilization when fed in the proportion of from one to three pounds of skim-milk to one pound of corn. If fed in amounts of three to five pounds to one pound of corn its efficiency is decreased twenty-six per cent, and if the proportion is five to seven pounds of skim-milk to one of corn, the efficiency decreased forty-three per cent over the one to three to one combination. Naturally, if the skim-milk and corn are cheap and plentiful, the best thing to do if a quick finish is desired, is to feed as much of both as it is possible to get the hogs to consume.

Certain precautionary measures are essential in feeding skim-milk, as follows:

Never feed sour milk one day and sweet milk the next. This results in disordered digestive systems, de-

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"I had three cows this Spring, one had garget and one had milk fever, and one was done up completely from calving and could not get up or walk and I had a veterinarian with no good results. I began feeding Kow-Kare and she is able to go to pasture with the other cows now. I just know I would have lost the three if I had not had your medicine."

D. B. Thomas of Knightville, Utah, had an experience with a barren cow that is just like scores of others who have kept cows on a paying basis with the aid of Kow-Kare. He writes:

"Had a valuable Jersey cow eight years old that had had seven calves. Something went wrong with her after her last calf came, so that for two years she failed to become with calf. Fed her some of your Kow-Kare last January and she was all right the first serving, and long before I had given her the whole package of your Kow-Kare that I purchased."

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FULLY GUARANTEED CREAM SEPARATOR

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HOMESPUN TOBACCO, smoking or chewing. Collect on delivery, 5 lb., \$1.50; 10 lb., \$2.50; 20 lb., \$4. **FARMERS' ASSOCIATION**, PADUCAH, KY.

ed gains and subsequent larger amounts of feed for a pound of gain. Feed milk from tuberculin-tested cows only or have it pasteurized. Keep all buckets, pails and feed as clean as possible. Feed regularly at a stated time each day. In feeding poultry, skim-milk, especially the lobbared kind, is the very best feed possible. This is more particularly true with the little chicks, since it not only puts more gain on them than any other ration, but it serves to carry off the dangerous and poisonous gases, which otherwise retard their growth, oftentimes causing their untimely death.

THE SURPLUS PROBLEM.

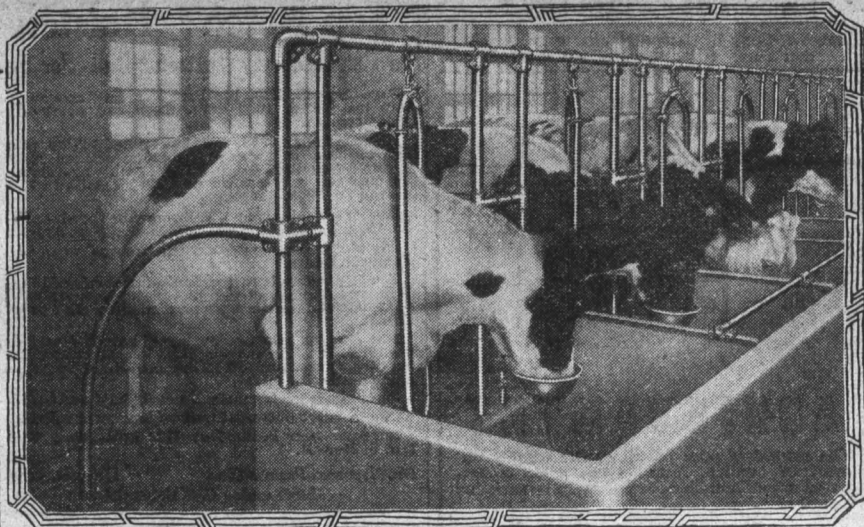
IN all large milk distributing centers there are times in the year when there is a scarcity of milk, and it becomes necessary to bring in milk from great distances. At other times of the year more milk comes to the city than can be utilized economically. In order to be assured of a sufficient quantity of milk during the periods of scarcity, the milk distributors have been compelled to buy more milk than they have needed during the surplus seasons. This milk, called surplus, has been largely wasted, because it has been unprofitable to manufacture it into dairy products. Such manufacture entails great expense for equipment that must be idle a portion of the year, the employment of expert labor, always difficult to secure, and unobtainable except by the year, and the development of a profitable outlet for the periodical supply. Thus far no city milk distributor has been able to overcome these obstacles.

This condition is a hardship both for the consumer and the producer. The consumer is compelled to pay higher prices in order that these losses may be met, and the producer is forced to take less for his milk than it costs to produce it, a condition which discourages production and which, unless remedied, eventually will result in much higher prices for the consumer.

Dairy authorities have for years looked for a solution to this knotty problem, but so far none of the suggested remedies have proved successful. The Michigan Milk Producers' Association in consultation with government and state authorities have evolved a plan, which bids fair not only to solve the vexatious surplus problem, but also insure a stable, dependable supply of milk at all times of the year. This plan involves the establishing of complete dairy plants at strategic distances from Detroit, equipped to utilize the milk in the most profitable manufactured product, and at times when the scarcity of milk occurs in the city, a portion of the milk supply of these plants can be shipped to the city. Enough of these plants are contemplated to care for more than twice the amount of the surplus, thus enabling them to continue in operation even during times of milk scarcity. Butter, condensed milk, powder, casein, albumen, fancy varieties of domestic and foreign cheese and many other dairy products will be manufactured. The plants will be patterned after the complete dairy plant sponsored by the government at Grove City, Pennsylvania, and which has acquired national renown for the prices it has been able to pay the farmer for his milk.

The first of these plants will be located at Adrian, and meetings are being held by farmers and dairymen in Detroit area to consider means for the financing of this plant, which is to cost \$120,000. It is to be a stock company, the stock earning a guaranteed dividend of seven per cent.

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You can save half the time and labor in doing barn chores—prevent waste of feed and loss of manure values. You increase the amount of milk from every cow and the quality is better because the barn is cleaner. Your stock will be healthier. Regardless of the size of barn you have these are some of the outstanding gains that make Louden Barn Equipment one of the most profitable investments you can make to-day. It takes the backache out of barn cleaning and stock feeding and affords your cows a restful pasture comfort that is reflected in a fuller milk pail.

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If you expect to build a new barn or remodel an old one, this 112-page book with its 400 illustrations covering every phase of barn construction will be a big help to you. It shows you how to make every foot of lumber count—how to save carpenter work—how to get a better arranged, better looking all-around barn for considerably less money. It includes many details—has chapters on different roofs, framing, size barn required for different purposes, ventilation, etc. Write for your copy today—no cost or obligation whatever.

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at Wholesale both 1 yr. and 2 yr. by mail and Express Special prices to Orchardists. Send for 1922 Guaranteed Seed and Tree Catalog. Send today. Allen Nursery & Seed House, Geneva, Ohio.

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The Sire Supreme

At the International Live Stock Exposition, where gathers each year the elite of North American Cattle to compete for the coveted awards, five more honors have been bestowed upon the "get" of Edgar of Dalmeny. You too may share these honors. A bull by this world famous sire will prove a most valuable asset to your herd.

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ORION, MICHIGAN
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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.

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We have a special proposition on your Bull for next year that will interest you now.
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GUERNSEYS Accredited Herd. 4 bulls sold in last month. Bull calves under 4 months old. Grandsons of ex-worlds champion A. A. cow and out of A. R. dams. Satisfaction guaranteed. G. W. and H. G. Ray, Albion, Mich.

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Containing blood of world champions.
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For Sale Register Guernsey bull calves out of A. R. dam. \$40.00 each if taken soon.
JOHN EBELS, R. 2, Holland, Mich.

For Sale, Reg. Guernsey Cows or heifers, price right.
GEO. M. CRAWFORD, Holton, Mich.

For Quick Sale

Grandsons King of the Pontiacs
Out of 28 to 32 lb. Dams. Federal Tested

No. 1 - Calf, out of 28.9 Junior four year old. Record 585 lb. milk, 119 lb. of butter. Born March 29, 1921. PRICE \$200.00.
No. 2 - Calf, dam's record 760 lbs. milk, 28 lbs. butter. Ready for light service. Born March 14, 1921. PRICE \$200.00.
No. 3 - Calf, out of Granddaughter Belle Korndyke, who was a dam of Pontiac Korndyke. Record 27.7 lbs. butter, 640 lbs. of milk. No better bred animal in Michigan. Born February 22, 1921. PRICE \$200.00.
No. 4 - Calf, dam at 6 years old made record of 625 lbs. milk and 31.96 butter. Granddaughter DeKol 2nd. Butter Boy 3rd. This calf worth \$1000. If bought at once \$400.00.
No. 5 - Calf, out of a two year old daughter of a twice 30 lb. cow. PRICE \$75.00.
Also several male calves out of untested dams, four, five and seven months old. PRICE FOR QUICK SALE \$50.00.
Address all communications to

J. B. JONES,
Care of Crowley, Milner & Co., Detroit, Mich.

A BLUE RIBBON WINNER
YOUNG BULL

On the 1921 Show Circuit For Sale at a low price. Out of an A. R. O. granddaughter of Pontiac Korndyke. Sired by our SENIOR SHOW BULL, Model King Segis Glista 32 37 lbs.

GRAND RIVER STOCK FARMS,
Corey J. Spencer, Owner
111 E. Main Street, Jackson, Michigan.
Herd Under State and Federal Supervision

HERE IS A GOOD ONE
BORN JUNE 2nd 1920 by MAPLECREST DE KOL HENGVERD whose three sisters have each produced over 1200 lbs. of butter in a year. TWO of them former WORLDS CHAMPIONS. Calf's dam by an own brother of a 1248 lb. cow. Write for pedigree.
F. B. LAY, Kalamazoo, Mich.

Bulls Registered Holstein Bulls
old enough for service, for sale. Bred from Pontiac and Segis dams and sired by a 26 lb. Gdson of Maplecrest Korndyke Hengverd, priced to move them. will also sell a few heifers soon to freshen. Herd under federal and state supervision.
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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 80 lbs. Write for pedigrees and quotations, stating about age desired.

TRAVERSE CITY STATE HOSPITAL
Traverse City, Mich.

Holstein-Friesian pure-bred bull calf. Prices are right. Larro Research Farm, Box A, North End, Detroit, Mich.

\$500 buys 5 grade, well marked, heavy milking Holstein cows, soon fresh and one Reg. Bull one year old; sired by 29 lb. grandson of King of the Pontiacs. A few reg. cows, heifers and young bulls for sale. The Long Lane Stock Farm, Home of Michigan's Best Bull. E. A. ROHLFS, Akron, Mich.

"Top Notch" Holsteins

An Extraordinary Butterfat Bull For Sale

Born Nov. 24, 1920, his Five Nearest Dams average 31.00 lbs. butter in 7 days. Each and every one of which test over 4% Butterfat.

His dam is by a 30 lb. cow that milked 105 lbs. in one day, who is a full sister to a cow that milked 120 lbs. in one day and 811 lbs. in 7 days, and is by a sister to the only cow in the world with 800 lbs. Milk in 7 days having an 800 lb. daughter.

His dam's sire is by a 30 lb. cow that produced a 30 lb. daughter, who in turn produced a 30 lb. daughter. His sire's two nearest dams average over 36 lb. Butter in 7 days.

His dam's dam is by a grandson of former 34 lb. and 35 lb. world's champions; he himself having 3-1000 lb. semi-official daughters, accompanied by milk production.

His dam at the tender age of 1 yr. 11 mos. 8 days gave 21.70 lbs. Butter from 411.8 lbs. Milk in 7 Days; 61.11 lbs. Butter and 1233.2 lbs. Milk in 21 Days, averaging 4.066% Butterfat.

He is handsomely marked, nearly half and half. The greatest butterfat bull we have ever raised. Improve your herd. Buy this bull. Only \$350.00 f. o. b. Howell.

McPherson Farms Co., Howell, Mich.
Herds under U. S. Supervision.

WINNWOOD HERD
Registered Holsteins

It was through the daughters of
Flint Maplecrest Boy that
Sir Ormsby Skylark Burke

Our Junior Herd Sire produced the Junior Champion and Reserve Grand Champion Heifer, at the Michigan State Fair this year, in a class of 38.

His get won first in Calf Herd, also first in get of sire, in a class of 13.

A son of either of these great bulls will help the individuality and production of your herd. We have bulls at dairymen's prices, and we also have bulls at the breeder's price, from dams with records up to 38 lbs. of butter in seven days, and 1168 lbs. of butter in one year.

Ask us about a real bull, a Maplecrest or an Ormsby.
JOHN H. WINN, Inc., Rochester, Mich.

Wiscogin Farm offers Holstein-Friesian bulls ready for light service. From sire whose 6 nearest dams average 33.34 lbs. butter for 7 days. A. R. O. Dams from 15.38 to 21.51 lbs. Herd under state and Federal Supervision. Oscar Wallin, Unionville, Mich.

FOR SALE Herd of Registered Holsteins. Consisting of nine cows, three heifers. Highly bred under nine years. Some with calves at side. Good producers, large size. Priced to suit times.
J. E. GAMBLE, Hart, Mich.

For Sale, Proven sire to settle a partnership. Dam 32 lbs. Sires dam 35 lbs. Write for extended Pedigree, Photo and price. Address M. W. Willard and Sons or John C. Bath, Grand Rapids, Mich. R. 2.

Holstein Friesian heifer and bull calves, purebred registered and high-grade. Price \$20 up. Splendid individuals and breeding. Write us your requirements. Browncroft Farms, McGraw, N. Y.

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. OLARKE, Vassar, Mich.

5 yr. old son of Smithdale Alcartra Pontiac from daughter of Pontiac Korndyke. Priced low.
FERNWOOD FARM, Ewart, Mich.

Ten reg. Holstein heifers, some fresh, others fresh soon. All tuberculin tested and guar. O.K. every way. Price \$100 to \$150 each. B. B. Reavey, Akron, Mich.

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Michigan Produces
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Raise far better feeding cattle than you can buy. Grow Baby Beef when gains cost least in feed and labor. Avoid costly rail hauls with their shrink, bruises and loss.

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Solves your problem—insures your success. A fair intelligent, satisfying system evolved from 37 years conscientious service to American Cattle Industry by three generations of Sothams. GET THE FACTS. Write now, or wire, Address

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Repeaters, Beau Donalds, Fairfaxes, and Farmers represented in our herd. Repeater 173rd, a son of old Repeater, at head of herd. Both sexes and all ages for sale.

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Office 616 So. West St., Kalamazoo, Mich.

HEREFORDS For Sale. Bulls, cows and heifers.
RALPH CALHOON, Bronson, Mich.

Jersey Thoroughbreds

Few cows and bull calves. Best breeding line. Guaranteed. Tuberculin tested twice a year. If you have no money will take bankable note. E. W. Vasvary, 509 Free Press Building, Detroit, Mich., Main 1267.

JERSEY CATTLE SALE
Will sell half interest in 20 head of Jerseys on well equipped Michigan farm to some one with knowledge of dairy farming. J. B. MAHER, 7533 Normal Ave., Chicago, Ill.

Lillie Farmstead Jerseys Bull calves from R. of M. cow.
OOLON C. LILLIE, Coopersville, Mich.

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

For Sale Jersey Bulls ready for service; Lad, Majesty breeding. WATERMAN & WATERMAN, Packard Rd., Ann Arbor, Mich.

Forced Sale, one Jersey Bull six Jersey Cows and grade cow all goes for \$650.
C. H. FRENCH, Marion, Mich.

Stock Farming

SILAGE-FED STEERS PAY OUT.

WORK at the Ohio Experiment Station and elsewhere prove beyond the question of a doubt that the cheapest beef can be made when silage is used as a portion of the ration. Even when corn was four times its present price silage used in reasonable portions proved to be the most economical source of beef. Experiments conducted at the Pennsylvania and Iowa stations show corn silage as a far more profitable way to feed the crop to cattle than the ear corn or shelled corn method. These conclusions have been verified hundreds of times by practical cattlemen feeding steers upon their home farms.

EARLIEST GAINS CHEAPEST.

AS pigs become heavier more feed is required per pound gained in weight. Pigs weighing one hundred pounds each were placed on a ration of corn, shorts and tankage and grown to weigh three hundred pounds by the Missouri Experiment Station. One pig was killed at the beginning and others

at this point, but they can be made with equal success in less valuable parts, such as the flank or axillary space, where there is loose connective tissue that readily absorbs the serum. In making an axillary injection the front legs should be spread apart so as to stretch the superficial muscles between the legs, and the needle should be directed so as to avoid the muscles of the shoulder.

It is desirable to make the injections at a point where that will make drainage easy should an abscess form. Serum should never be injected into a mass of fatty tissue, as it is not sufficiently absorptive. Although the serous membrane lining in the abdominal cavity takes up serum readily, abdominal injections are not recommended because of the danger of puncturing the internal organs with the needle or of carrying infection into the cavity.

Small pigs and shorts up to eighty pounds in weight may be held up by the hind legs, with the forefeet resting on the ground, and the injection made into the loose tissue of the flank. A pig so held is in a good position for the taking of temperature, cleansing the area of operation, and making the injection. Anyone interested in this work should send for Farmers' Bulletin 834, which has been recently reprinted, and which contains full information regarding hog cholera and the methods of control.

BRED SOW SALES GOING WELL.

REPORTS from the bred sow sales in several states clearly indicate a healthy demand for good cows at prices that are quite satisfactory to the sellers. Averages from \$70 to \$100 are quite common, while a number of sales of the better sort are going considerably beyond these figures.

A well-known hog man who had traveled over a considerable portion of the middle west, recently remarked, "There is no question but that there will be sufficient demand to absorb all of the good bred sows at prices the sellers will be glad to take in the territory I have covered."

TUBERCULOSIS WORK IN MICHIGAN.

THE number of cattle under the supervision of state and federal officials in Michigan during the month of November were 102,005 in 10,203 herds. There are now a total of 71,139 animals that have been once tested and at the end of December there were 460 herds containing 9,888 animals waiting to be tested.

ST. LOUIS STOCK MARKET ACTIVE.

FROM a recent report of the St. Louis Cooperative Association it is found that more than \$128,000 worth of live stock was shipped from St. Louis and vicinity to Detroit and Buffalo markets during 1921. The association has been very active in handling coal, fertilizer, fence posts, fencing and other merchandise useful to the farmers of Gratiot county.—M.

In raising calves for stock purposes the economical way is to use skim-milk after the calf is eight or ten days old. To this milk should be added a portion of flaxseed meal cooked into a porridge. This meal is excellent for the purpose since its fat content is large and its starch content low, while the rate of digestibility is high.



First Prize Filly at Recent Colt Show Held at the M. A. C. Exhibited by J. M. Hicks & Son.

Veterinary.

CONDUCTED BY DR. W. C. FAIR.

Advice through this column is given free to our subscribers. Letters should state fully the history and symptoms of each case and give name and address of the writer. Initials only are published. When a reply by mail is requested the service becomes private practice and \$1 must be enclosed.

Knuckling.—I have a colt which is becoming cock-ankled. Is there anything I can do, or buy to stop it? A. E., Levering, Mich.—Apply equal parts of turpentine, aqua ammonia, raw linseed oil to weak joints three times a week.

Nasal Catarrh.—My cow acts as if she had taken cold; she coughs, discharges mucus from both nostrils, but has a good appetite. G. E., Gladwin, Mich.—Give her a teaspoonful of powdered sulphate of iron and a tablespoonful of powdered licorice in each feed two or three times a day.

Malignant Sore.—Several months ago my mare was wounded by the tooth of a hog; wound has partially healed, but center remains raw. The sore seemingly heals over but it must itch as she rubs it raw. G. M., Eau Claire, Mich.—Apply equal parts of iodoform and boric acid to sore daily.

Lice.—My cattle are troubled with lice A. S., Litchfield, Mich.—Pure kerosene will kill cattle lice, but sometimes it will take off the hair. Mix one pint of kerosene in one pound of lard and apply, or apply coal-tar disinfectant, one to thirty of water. Vinegar kills nits.

Cow Gives Bloody Milk.—I have a cow that gives bloody milk; she came fresh twelve months ago, but is now with calf. The silage we have been feeding is moldy, could it cause her to give bloody milk? J. U., Imlay City, Mich.—She may have met with an injury, or it may be caused by badly cured silage. Change her feed and if possible ascertain how she bruises her udder and remove the cause.

Sitfast—Fibrous Tumors.—I have a young mare that has three small hard bunches on shoulder where the collar rests. Occasionally she limps. H. E. W., Stevensville, Mich.—The only remedy is to cut out bunches, then apply one part iodoform and nine parts of boric acid to wounds twice daily. Try and locate lameness, the bunches have nothing to do with it.

Mange.—Have a horse that is inclined to rub himself, on parts of body the skin is rough and there are some scabs. What shall I put on him? W. G., Pigeon, Mich.—Apply one part coal-tar disinfectant and twenty parts of water to itchy parts of body once or twice a day. Give him three drams of Fowler's solution at a dose in feed or water two or three times daily. Feed him some roots, groom him twice a day.

Stiffness in Hind Quarters.—Have an eight-year-old horse that is quite stiff in both hind legs. When first taken lame the trouble seemed to be in one leg and the horse lost appetite and has not eaten well since. He is now less lame, but fails to eat enough food. H. L., Bessemer, Mich.—Give him a teaspoonful of acetate of potash in drinking water two or three times a day. Change his feed, keep him warm, bowels open, and give him walking exercise. Hand-rub back and hind quarters twice a day.

Nasal Catarrh.—Will you tell me what to do for our sick cats? About a year ago they had a bad cold or distemper and whatever the sickness is, it fails to leave them. Part of time they are fairly well, and at other times worse. Mrs. H. M., Pentwater, Mich.—Dissolve a tablespoonful of baking soda in three pints of tepid water, dip lower part of the face in this solution twice daily. Dissolve a dessertspoonful of salt in one quart of tepid water and dip lower part of face in this lotion daily.

Dog Question.—I have a female Air-dale terrier that comes in heat regularly and we have her served, but she fails to have pups. Soon after she is bred she acts and to all appearances is pregnant, her body enlarges, her udder semi-fills with milk; however, after nine weeks all these symptoms leave her. Will you kindly tell me what is wrong? T. M., Charlevoix, Mich.—The writer has known of hundreds of parallel cases, but has never become thoroughly convinced that the soothing effect of intercourse and the imagination of the female should bring about the latent symptoms of pregnancy; however, without intercourse, the female rarely shows many of the symptoms of pregnancy. The writer would like to hear from readers on this subject, giving their views.



"He ought to use SAVE-THE-HORSE too"
Then he can cure while plowing.

A HORSE goes lame—that means no plowing today. Tomorrow a six-day rain may set in. That means "No plowing this week!" A smaller yield; a late crop; money lost and time wasted, by one lame horse. Don't take the chance.

A bottle of **SAVE-THE-HORSE**, the humane treatment for sore, lame and blemished horses, is the surest safeguard against these losses. It saves much because horse may work while being cured. **SAVE-THE-HORSE** cures—that's why we sell it with signed Guarantee to cure Ringbone, Thoropin, SPAVIN—or Shoulder, Knee, Ankle, Hoof or Tendon Disease or return money. Cures the so-called "incurables" without blistering or lost work.

Our FREE 96-page **BOOK** makes it possible for you to locate, understand, and treat all lameness, and our expert veterinary advice is yours, free for the asking, if you are not sure. Don't run the risk of having horse laid up when you most need him. Use it once and you'll always depend upon **SAVE-THE-HORSE**. Remember the **GUARANTEE** and let us take the risk for you. Write today for sample of this **MONEY-BACK** Guarantee, **BOOK** and advice—all **FREE**.

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Dr. David Roberts Animal Medicines
44 Prescriptions—Sold by Druggists or Direct
A prescription for every animal ailment, whether it be cow, horse, pig, sheep or poultry. A complete line for the protection of your livestock.
Dr. DAVID ROBERTS' ANTI-ABORTION TREATMENT has been successfully used for over thirty years—it is long past the experimental stage. Its effectiveness in preventing and overcoming Abortion in cows is being satisfactorily demonstrated in hundreds of herds every year. Whether you own five head or five hundred, you can

Stamp Abortion Out and Keep It Out
Stop losing calves. Send for **FREE** copy of "The CATTLE SPECIALIST." Answer every question pertaining to **ABORTION IN COWS**. Tells how to treat your own herd at small expense. Write **Dr. DAVID ROBERTS VETERINARY CO., Inc.** 124 Wisconsin St., Waukesha, Wis.

2 Cents a Name Paid

for the owners of sheep in your locality. Give name and correct mail address of each owner and state number of sheep owned.

All lists will be verified as rapidly as received and payment mailed promptly. Send your list to

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CATTLE

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BUY A BULL

that will put weight on your dairy calves—the difference will soon pay for the bull. Now selling good Scotch 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

Richland Shorthorns

Now offering a choice lot of bull calves. Best of breeding. \$150 to \$250 will buy a real bull at present time. Write for particulars.

C. W. Prescott & Sons,
Tawas City, Mich.

Francisco Farm Shorthorns

and **BIG TYPE POLAND CHINAS**
Now offering:—Three bulls ready for service. Mastodon, Olansman. Emancipator blood in gilts bred for spring farrow. See them.

POPE BROS. CO., Mt. Pleasant, Mich

The Maple's Shorthorns

Kirk Livingston Lad, by imported Hartforth Welfare, in service. Bulls and heifers for sale.

J. V. Wise, Gobleville, Mich.

Central Mich. Shorthorn Breeders' Assn.

offer for sale both milk and beef breeding, all ages. Write **M. E. MILLER, Sec'y,** Greenville, Mich.

Milking

Shorthorns of best Bates breeding, bulls, cows and heifers for sale.

E. H. KURTZ, Mason, Mich

SHORTHORNS. Two 4 mo. old bull calves of White-Shall Sultan Strain and a few young heifers. Priced very reasonable. **J. A. Wilk & Son,** Alma, Mich.

Dispersal Sale of accredited herd of **Milking** Shorthorns, on March 21st. Davidson & Hall, Tecumseh, Michigan

For Sale Registered Red Polled bulls, from good milking strain. Prices right if taken at once. **WM. J. BROWN & SONS,** Lawrence, Mich.

HOGS

Woodland Farm Duroc Hogs

A well kept herd, best of blood lines, with size and breeding qualities, stock of all ages for sale at reasonable prices. **W. E. BARTLEY,** Alma, Mich.

Brookwater Duroc Jerseys

Bred Gilts for March and April farrow. Bred to Big Bone Giant Sensation, Panama Special 55th and Brookwater Demonstrator 26th. Write us for description and prices. Or come and see them.

BROOKWATER FARM, Ann Arbor, Mich.
H. W. Mumford, Owner **J. B. Andrews, Mgr.**

Duroc Jerseys A few extra good fall boars, and a choice lot of spring boars of the heavy boned type popular blood lines at reasonable prices. **DRODT & BERNIS,** Monroe, Mich.

DUROC JERSEYS: A few choice bred gilts for sale. **CAREY U. EDMONDS,** Hastings, Mich

Duroc Service Boars \$20 to \$40. Bred sows and gilts \$30 to \$50. Fall pigs \$10 to \$15. All registered or eligible. We have one of the largest and best herds in state. Ample opportunity for selection. **MICHIGANA FARM,** Pavilion, Mich., Kalamazoo County.

Pure-Bred Duroc Jersey Hogs; we usually have good boars and sows of all ages for sale. Reasonable prices. **Larso Research Farm,** Box A, North End, Detroit, Mich.



Spring pigs by **Walt's** Orion, First Sr. Yearling
Detroit, Jackson, Gd. Rapids and Saginaw 1919

Phillips Bros, Riga, Mich.

Durocs Herd headed by Great King Orion Col. assisted by a good son of King Orion Fancy Jr **HARRY FOWLER,** Sturgis, Mich.

Duroc Jersey Swine

Breeding stock for sale at all times at reasonable prices. If in need of a high class boar, or sow any age write, or better, come to farm. Best of Blood line and we guarantee you satisfaction. Herd boars, Panama Special 11th and Home Farm Wonder. Booking order for fall pigs at \$15 each.

Thos. Underhill & Son, Salem, Mich.

AM SELLING

a great offering of bred Duroc sows and gilts March 4th. They are mostly bred to Orion Giant Col., son of Ohio Grand Champion. Get on mailing list for catalog. **W. C. TAYLOR,** Milan, Mich

WEST View Duroc Farm offers spring boars from Home Farm Tippy Orion and Pathfinder Prince, with Big bone and type. Ready for service, sows, fall gilts and spring gilts with quality. Write or come and see them. **ALBERT EBERSOLE,** Plymouth, Mich.

OAKWOOD Farm Durocs are priced so that they can make good in the feed lot as well as in the breeding pen. They are the long, tall, growthy kind. **RUSH BROS.,** Romeo, Mich.

A FEW Duroc Jerseys, bred Sows, and extra good fall boars. **MATT MATTHYSEE,** Outlierville, P. O. Address Byron Center, Mich.

DUROC-JERSEYS

A few good Brood sows. Wayland, Mich.

BIG TYPE CHESTER WHITES

The prize winner kind from the best prize winner bloodlines. Early developers, ready for market at six months old. I have started more breeders on the road to success than any man living. I want to place one hog in each community to advertise my herd. Write for agency and my plan. **G. S. BENJAMIN,** R. F. D. 10, Portland, Mich.

CHESTERS We are all sold out of Boar, Bred Sows and Gilts. For spring pigs write **WEBER BROS.,** Royal Oak, Mich., 10 Mile and Ridge Rd., Phone 408.

Chester Whites bred gilts and fall pigs of excellent quality and breeding. Satisfaction guaranteed. **F. W. Alexander,** Vassar, Mich.

Chester Whites Bred gilts for April farrow 250 lbs., f. o. b. \$45. **ALBERT DORR,** Clinton, Mich

O. I. C. HOGS

all ages sired by Callaway Edd, 1918 world's grand champ, boar and O. C. Schoolmaster 1919 world's grand champion, also Wonder Big Type and Giant Buster. Write your wants, all stock shipped on approval. **GRANDELL'S PRIZE HOGS,** Cass City, Mich.

O. I. C. & Chester White Swine. Strictly Big Type with quality. Service boars, and gilts bred for Mar. and early April farrow, are all sold. Some good ones left, bred for last of April and early May farrow. All of prize winning blood lines. Have one good tried yearling sow that I will sell. **Newman's Stock Farm,** R. 4, Marlette, Mich.

O. I. C's. Aug. and Sept. pigs and bred gilts for Mar farrow. **CLOVER LEAF STOCK FARM,** Monroe, Mich.

O. I. C. BRED GILTS

shipped C. O. D. **Mason, Mich.**

O. I. C. Spring boars and gilts no akin. We breed and own the Grand Champion Boar at West Mich. State Fair. We ship C. O. D. and Reg. free. **GEORGE M. WELTON & SON,** Alto, Mich.

O. I. C's. choice gilts bred for March and April farrow. **A. J. BARKER & SON,** Belmont, Mich.

For Sale. O. I. C. Gilts bred for March and April farrow (at a reasonable price.) **H. W. MANN,** Dansville, Mich.

O. I. C's A few bred gilts and fall pigs at farmers' prices. **C. J. THOMPSON,** Rockford, Mich.

LARGE TYPE P. C.

Largest herd of individuals in Mich. Come and see, compare, and be convinced, expenses paid if not as represented. Boars and early gilts all sold. A few late gilts, will sell open or hold and breed for late farrow. **W. E. LIVINGSTON,** Parma, Mich.

40 Sows, Granddaughters of the great Giant Buster, bred to a grandson of the Yankee, the \$40,000 sire. Where can you find any better Big Type breeding? Our prices are very low. \$30, \$40. Also 50 fall pigs. Why not buy a pig? **JNO. C. BUTLER,** Portland, Mich. Bell Phone.

LEONARD'S Big Type P. C. Herd headed by Leonard's Liberator 458,285, the tallest, longest and leanest boned pig for his age in Mich. Call or write, stock in season. Fall pigs at Bargain Prices. **E. R. LEONARD,** St. Louis, Mich.

Pig 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.

L.T.P.C. \$15, \$20 & \$25

We have a fine lot of fall pigs sired by Harts Black Price and Right Kind Clan. **HART, FULCHER and CLINE,** address F. T. Hart, St. Louis, Mich.

Large Type Poland Chinas

Spring boars all sold. Fall pigs at bargain prices. Bred gilts held for public sale. **A. A. FELDKAMP,** R. 2, Manchester, Mich.

L. T. P. C.

Gilts bred Mo. Bob., 2 sons of Clansman Image, Big Defender 2nd and High Joe, tracing back to Chief Price. **H. O. SWARTZ,** Schoolcraft, Mich.

BIG Type Poland-China and Holsteins. Two fall Yearling gilts, sired by Hove's Giant and bred to Clansman Buster for spring farrow at \$60 each. Our spring gilts are all sold. We are offering Reg. Holstein Bulls ready for service at \$60, sired by 29 lb. bull. **DORUS HOVER,** Akron, Mich.

BIG TYPE POLAND CHINAS

Bred gilts for sale. Choice individuals of rich breeding at prices within your reach. Come see them or write. **WESLEY HILE,** R. 6, Ionia, Mich.

L. T. P. C. Gilts bred to that Yearling Boar that stands 40" high, is 76" long, and walks on a 11" bone. Offering summer and fall pigs. **Olyde Fisher,** R. 3, St. Louis, Mich.

Big Type P. C. Sows bred to Big Bob Mastodon, his gilts bred to a son of Peter Pan, that sold for \$1,075 cash Jan. 5. **C. E. GARNANT,** Eaton Rapids, Mich.

L. T. P. C. Orange Model gilts, bred for March and April farrow. Come and see them, they will bear inspection. **W. J. Hagelshaw,** Augusta, Mich.

BIG TYPE Poland Chinas, leading strains at lowest prices. Both sex, all ages, and bred sows and gilts. **G. A. BAUMGARDNER,** R. 2, Middleville, Mich.

Poland China gilts sired by a 900 lb. two years old and bred to a son of Mich. 1921 Grand Champion. **ROBERT MARTIN,** R. 3, Woodland, Mich.

Hampshires Bred gilts now ready to ship with fall boar pig not akin. **JOHN W. SNYDER,** R. 4, St. Johns, Mich.

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We offer 40 big healthy yearling Shropshire and Hampshire Rams all registered at \$25.00 each. Come or write while the picking is good. **S. L. WING,** Coldwater, Mich.

Registered Shropshire Rams Priced to sell. **Dan Booher,** R. 4, Evart, Mich

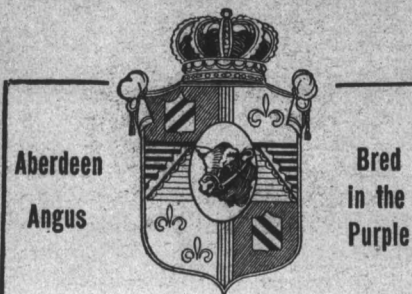
Ten Aged Registered Delaine ewes and ten ewe lambs for sale. **CALHOON BROS.,** Bronson, Mich

HORSES

FOR SALE 2 Reg. Percheron Stallions and a car of Grade Draft Cols. **CHAS. BRAY,** Okemos, Mich.

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The Sire Supreme

At the International Live Stock Exposition, where gathers each year the elite of North American Cattle to compete for the coveted awards, five more honors have been bestowed upon the "get" of Edgar of Dalmeny. You too may share these honors. A bull by this world famous sire will prove a most valuable asset to your herd. Write us today.

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

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We have a special proposition on your Bull for next year that will interest you now.
J. M. WILLIAMS, North Adams, Mich.

GUERNSEYS Accredited Herd. 4 bulls sold in last month. Bull calves under 4 months old. Grandsons of ex-worlds champion A. A. cow and out of A. R. dams. Satisfaction guaranteed. G. W. and H. G. Ray, Albion, Mich.

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JOHN EBELS, R. 2, Holland, Mich.

For Sale, Reg. Guernsey Cows or heifers, priced right.
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Grandsons King of the Pontiacs
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No. 1—Calf, out of 28.9 Junior four year old. Record 555 lb. milk, 119 lb. of butter. Born March 29, 1921. PRICE \$200.00.
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No. 3—Calf, out of Granddaughter Belle Korndyke, who was a dam of Pontiac Korndyke. Record 27.7 lbs. butter, 640 lbs. of milk. No better bred animal in Michigan. Born February 22, 1921. PRICE \$200.00.
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Also several male calves out of untested dams, four, five and seven months old. PRICE FOR QUICK SALE \$50.00
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YOUNG BULL

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GRAND RIVER STOCK FARMS,

Corey J. Spencer, Owner
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Herd Under State and Federal Supervision

HERE IS A GOOD ONE

BORN JUNE 2nd 1920 by MAPLECREST DE KOL HENGVERD whose three sisters have each produced over 1200 lbs. of butter in a year. TWO of them former WORLDS CHAMPIONS. Calf's dam by an own brother of a 1248 lb. cow. Write for pedigree.
F. B. LAY, Kalamazoo, Mich.

Bulls Registered Holstein Bulls
old enough for service, for sale. Bred from Pontiac and Segis dams and sired by a 26 lb. Gdson of Maplecrest Korndyke Hengverd, priced to move them. will also sell a few heifers soon to freshen. Herd under federal and state supervision.
HENRY S. ROHLFS, R. 1, Akron, Mich.

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

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Holstein-Friesian pure-bred bull calf, tuberculin tested. Prices are right. Larro Research Farm, Box A, North End, Detroit, Mich.

\$500 buys 5 grade, well marked, heavy milking Holstein cows, soon fresh and one Reg. Bull one year old; sired by 29 lb. grandson of King of the Pontiacs. A few reg. cows, heifers and young bulls for sale. The Long Lane Stock Farm, Home of Michigan's Best Bull. E. A. ROHLFS, Akron, Mich.

"Top Notch" Holsteins

An Extraordinary Butterfat Bull For Sale

Born Nov. 24, 1920, his Five Nearest Dams average 31.00 lbs. butter in 7 days. Each and every one of which test over 4% Butterfat.

His dam is by a 30 lb. cow that milked 105 lbs. in one day, who is a full sister to a cow that milked 120 lbs. in one day and 811 lbs. in 7 days, and is by a sister to the only cow in the world with 800 lbs. Milk in 7 Days having an 800 lb. daughter.

His dam's sire is by a 30 lb. cow that produced a 30 lb. daughter, who in turn produced a 30 lb. daughter. His sire's two nearest dams average over 36 lb. Butter in 7 days.

His dam's dam is by a grandson of former 34 lb. and 36 lb. world's champions; he himself having 3-1000 lb. semi-official daughters, accompanied by milk production.

His dam at the tender age of 1 yr. 11 mos. 8 days gave 21.70 lbs. Butter from 411.8 lbs. Milk in 7 Days; 61.11 lbs. Butter and 123.2 lbs. Milk in 21 Days, averaging 4.06% Butterfat.

He is handsomely marked, nearly half and half. The greatest butterfat bull we have ever raised. Improve your herd. Buy this bull. Only \$350.00 f. o. b. Howell.

McPherson Farms Co., Howell, Mich.
Herds under U. S. Supervision.

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Registered Holsteins

It was through the daughters of
Flint Maplecrest Boy that
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Our Junior Herd Sire
produced the Junior Champion and Reserve Grand Champion Heifer, at the Michigan State Fair this year, in a class of 38.

His get won first in Calf Herd, also first in get of sire, in a class of 13.

A son of either of these great bulls will help the individuality and production of your herd.

We have bulls at dairymen's prices, and we also have bulls at the breeder's price, from dams with records up to 38 lbs. of butter in seven days, and 1168 lbs. of butter in one year.

Ask us about a real bull, a Maplecrest or an Ormsby.

JOHN H. WINN, Inc., Rochester, Mich.

Wiscogin Farm offers Holstein-Friesian bulls ready for light service. From sire whose 6 nearest dams average 33.34 lbs. butter for 7 days. A. R. O. Dams from 13.38 to 21.51 lbs. Herd under state and Federal Supervision. Oscar Wallin, Unionville, Mich.

FOR SALE Herd of Registered Holsteins. Consisting of nine cows, three heifers. Highly bred under nine years. Some with calves at side. Good producers, large size. Priced to suit times. J. E. GAMBLE, Hart, Mich.

For Sale, Proven sire to settle a partnership. Dam 32 lbs. Sires dam 35 lbs. Write for extended Pedigree, Photo and price. Address M. W. Willard and Sons or John O. Bath, Grand Rapids, Mich. R. 2.

Holstein Friesian heifer and bull calves, purebred registered and high-grade. Price \$20 up. Splendid individuals and breeding. Write us your requirements. Browncroft Farms, McGraw, N. Y.

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. OLARKE, Vassar, Mich.

5 yr. old son of Smithdale Alcartra Pontiac from daughter of Pontiac Korndyke. Priced low. FERNWOOD FARM, Ewart, Mich.

Ten reg. Holstein heifers, some fresh, others fresh soon. All tuberculin tested and guar. O.K. every way. Price \$100 to \$150 each. B. B. Heavey, Akron, Mich.

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Jersey Thoroughbreds

Few cows and bull calves. Best breeding line. Guaranteed. Tuberculin tested twice a year. If you have no money will take bankable note. E. W. Vasvary, 509 Free Press Building, Detroit, Mich., Main 1267.

JERSEY CATTLE SALE

Will sell half interest in 20 head of Jerseys on well equipped Michigan farm to some one with knowledge of dairy farming. J. B. MAHER, 7533 Normal Ave., Chicago, Ill.

Lillie Farmstead Jerseys Bull calves from R. of M. cow.
OOLON C. LILLIE, Coopersville, Mich.

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

For Sale Jersey Bulls ready for service; Lad, Majesty breeding. WATERMAN & WATERMAN, Packard Rd., Ann Arbor, Mich.

Forced Sale, one Jersey Bull six Jersey Cows and grade cow all goes for \$650.
C. H. FRENCH, Marion, Mich.

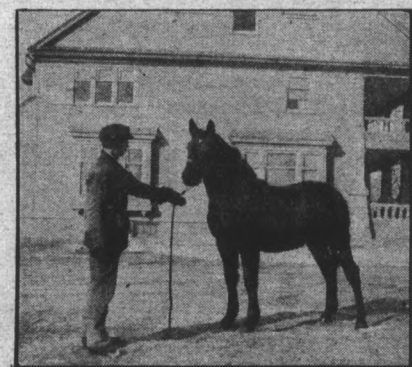
Stock Farming

SILAGE-FED STEERS PAY OUT.

WORK at the Ohio Experiment Station and elsewhere prove beyond the question of a doubt that the cheapest beef can be made when silage is used as a portion of the ration. Even when corn was four times its present price silage used in reasonable portions proved to be the most economical source of beef. Experiments conducted at the Pennsylvania and Iowa stations show corn silage as a far more profitable way to feed the crop to cattle than the ear corn or shelled corn method. These conclusions have been verified hundreds of times by practical cattlemen feeding steers upon their home farms.

EARLIEST GAINS CHEAPEST.

AS pigs become heavier more feed is required per pound gained in weight. Pigs weighing one hundred pounds each were placed on a ration of corn, shorts and tankage and grown to weigh three hundred pounds by the Missouri Experiment Station. One pig was killed at the beginning and others



First Prize Filly at Recent Colt Show Held at the M. A. C. Exhibited by J. M. Hicks & Son.

at weights of two hundred and three hundred pounds. All pigs were kept in a dry lot and fed the same ration, so the exact amount of food consumed could be determined.

The results agreed with general experience with regard to weight. In growing from one hundred to two hundred pounds, 4.3 pounds of grain were required per pound of gain, while in growing from two hundred to three hundred pounds, 10.8 pounds feed were consumed for each pound of gain, and in growing from one hundred to three hundred pounds, 9.3 pounds of feed were required. The result indicated also that when a heavy grain ration is fed lean meat is not produced economically after a weight of 200 pounds is reached, while fat is produced most economically from that point up to and beyond three hundred pounds.

INJECTING HOGS IN FLANK SAVES MEAT.

COMPLAINTS from packers indicate that there are still many veterinarians and farmers who persist in immunizing hogs against cholera by making injections in the ham or the shoulder, a practice that often results in infection and the formation of deep abscesses in the hams and shoulders where the serum and virus were injected. The United States Department of Agriculture has long advised against using these parts as points of injection and the department of veterinarians are instructed to avoid the possibility of such injury by selecting some other place.

The ham has been favored as a place for making the injections because they can be made more rapidly and easily

at this point, but they can be made with equal success in less valuable parts, such as the flank or axillary space, where there is loose connective tissue that readily absorbs the serum. In making an axillary injection the front legs should be spread apart so as to stretch the superficial muscles between the legs, and the needle should be directed so as to avoid the muscles of the shoulder.

It is desirable to make the injections at a point where that will make drainage easy should an abscess form. Serum should never be injected into a mass of fatty tissue, as it is not sufficiently absorptive. Although the serous membrane lining in the abdominal cavity takes up serum readily, abdominal injections are not recommended because of the danger of puncturing the internal organs with the needle or of carrying infection into the cavity.

Small pigs and shorts up to eighty pounds in weight may be held up by the hind legs, with the forefeet resting on the ground, and the injection made into the loose tissue of the flank. A pig so held is in a good position for the taking of temperature, cleansing the area of operation, and making the injection. Anyone interested in this work should send for Farmers' Bulletin 834, which has been recently reprinted, and which contains full information regarding hog cholera and the methods of control.

BRED SOW SALES GOING WELL.

REPORTS from the bred sow sales in several states clearly indicate a healthy demand for good cows at prices that are quite satisfactory to the sellers. Averages from \$70 to \$100 are quite common, while a number of sales of the better sort are going considerably beyond these figures.

A well-known hog man who had traveled over a considerable portion of the middle west, recently remarked, "There is no question but that there will be sufficient demand to absorb all of the good bred sows at prices the sellers will be glad to take in the territory I have covered."

TUBERCULOSIS WORK IN MICHIGAN.

THE number of cattle under the supervision of state and federal officials in Michigan during the month of November were 102,005 in 10,203 herds. There are now a total of 71,139 animals that have been once tested and at the end of December there were 460 herds containing 9,888 animals waiting to be tested.

ST. LOUIS STOCK MARKET ACTIVE.

FROM a recent report of the St. Louis Cooperative Association it is found that more than \$128,000 worth of live stock was shipped from St. Louis and vicinity to Detroit and Buffalo markets during 1921. The association has been very active in handling coal, fertilizer, fence posts, fencing and other merchandise useful to the farmers of Gratiot county.—M.

In raising calves for stock purposes the economical way is to use skim-milk after the calf is eight or ten days old. To this milk should be added a portion of flaxseed meal cooked into a porridge. This meal is excellent for the purpose since its fat content is large and its starch content low, while the rate of digestibility is high.

Veterinary.

CONDUCTED BY DR. W. C. FAIR.

Advice through this column is given free to our subscribers. Letters should state fully the history and symptoms of each case and give name and address of the writer. Initials only are published. When a reply by mail is requested the service becomes private practice and \$1 must be enclosed.

Knuckling.—I have a colt which is becoming cock-ankled. Is there anything I can do, or buy to stop it? A. E., Levering, Mich.—Apply equal parts of turpentine, aqua ammonia, raw linseed oil to weak joints three times a week.

Nasal Catarrh.—My cow acts as if she had taken cold; she coughs, discharges mucus from both nostrils, but has a good appetite. G. E., Gladwin, Mich.—Give her a teaspoonful of powdered sulphate of iron and a tablespoonful of powdered licorice in each feed two or three times a day.

Malignant Sore.—Several months ago my mare was wounded by the tooth of a hog; wound has partially healed, but center remains raw. The sore seemingly heals over but it must itch as she rubs it raw. G. M., Eau Claire, Mich.—Apply equal parts of iodoform and boric acid to sore daily.

Lice.—My cattle are troubled with lice A. S., Litchfield, Mich.—Pure kerosene will kill cattle lice, but sometimes it will take off the hair. Mix one pint of kerosene in one pound of lard and apply, or apply coal-tar disinfectant, one to thirty of water. Vinegar kills nits.

Cow Gives Bloody Milk.—I have a cow that gives bloody milk; she came fresh twelve months ago, but is now with calf. The silage we have been feeding is moldy, could it cause her to give bloody milk? J. U., Imlay City, Mich.—She may have met with an injury, or it may be caused by badly cured silage. Change her feed and if possible ascertain how she bruises her udder and remove the cause.

Sitfast—Fibrous Tumors.—I have a young mare that has three small hard bunches on shoulder where the collar rests. Occasionally she limps. H. E. W., Stevensville, Mich.—The only remedy is to cut out bunches, then apply one part iodoform and nine parts of boric acid to wounds twice daily. Try and locate lameness, the bunches have nothing to do with it.

Mange.—Have a horse that is inclined to rub himself, on parts of body the skin is rough and there are some scabs. What shall I put on him? W. G., Pigeon, Mich.—Apply one part coal-tar disinfectant and twenty parts of water to itchy parts of body once or twice a day. Give him three drams of Fowler's solution at a dose in feed or water two or three times daily. Feed him some roots, groom him twice a day.

Stiffness in Hind Quarters.—Have an eight-year-old horse that is quite stiff in both hind legs. When first taken lame the trouble seemed to be in one leg and the horse lost appetite and has not eaten well since. He is now less lame, but fails to eat enough food. H. L., Bessemer, Mich.—Give him a teaspoonful of acetate of potash in drinking water two or three times a day. Change his feed, keep him warm, bowels open, and give him walking exercise. Hand-rub back and hind quarters twice a day.

Nasal Catarrh.—Will you tell me what to do for our sick cats? About a year ago they had a bad cold or distemper and whatever the sickness is, it fails to leave them. Part of time they are fairly well, and at other times worse. Mrs. H. M., Pentwater, Mich.—Dissolve a tablespoonful of baking soda in three pints of tepid water, dip lower part of the face in this solution twice daily. Dissolve a dessertspoonful of salt in one quart of tepid water and dip lower part of face in this solution twice daily.

Dog Question.—I have a female Air-dale terrier that comes in heat regularly and we have her served, but she fails to have pups. Soon after she is bred she acts and to all appearances is pregnant, her body enlarges, her udder semi-fills with milk; however, after nine weeks all these symptoms leave her. Will you kindly tell me what is wrong? T. M., Charlevoix, Mich.—The writer has known of hundreds of parallel cases, but has never become thoroughly convinced that the soothing effect of intercourse and the imagination of the female should bring about the latent symptoms of pregnancy; however, without intercourse the female rarely shows many of the symptoms of pregnancy. The writer would like to hear from readers on this subject, giving their views.



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BOOK FREE Our FREE 96-page BOOK makes it possible for you to locate, understand, and treat all lameness, and our expert veterinary advice is yours, free for the asking, if you are not sure. Don't run the risk of having horse laid up when you most need him. Use it once and you'll always depend upon SAVE-THE-HORSE. Remember the GUARANTEE and let us take the risk for you. Write today for sample of this MONEY-BACK Guarantee, BOOK and advice—all FREE.

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A prescription for every animal ailment, whether it be cow, horse, pig, sheep or poultry. A complete line for the protection of your livestock.

Dr. DAVID ROBERTS' ANTI-ABORTION TREATMENT has been successfully used for over thirty years—it is long past the experimental stage. Its effectiveness in preventing and overcoming Abortion in cows is being satisfactorily demonstrated in hundreds of herds every year. Whether you own five head or five hundred, you can

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Stop losing calves. Send for FREE copy of "The CATTLE SPECIALIST." Answer every question pertaining to ABORTION IN COWS. Tells how to treat your own herd at small expense. Write Dr. DAVID ROBERTS VETERINARY CO., Inc. 124 Wisconsin St., Waukesha, Wis.

2 Cents a Name Paid

for the owners of sheep in your locality. Give name and correct mail address of each owner and state number of sheep owned.

All lists will be verified as rapidly as received and payment mailed promptly. Send your list to

L. D. GARTER

506 Carlton Ave., Wheaton, Illinois

CATTLE

BIDWELL SHORTHORNS BUY A BULL

that will put weight on your dairy calves—the difference will soon pay for the bull. Now selling good Scotch 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

Richland Shorthorns

Now offering a choice lot of bull calves. Best of breeding. \$150 to \$250 will buy a real bull at present time. Write for particulars.

C. W. Prescott & Sons,
Tawas City, Mich.

Francisco Farm Shorthorns and BIG TYPE POLAND CHINAS

Now offering: Three bulls ready for service. Mastodon, Olansman, Emancipator blood in gilts bred for spring farrow. See them.

POPE BROS. CO., Mt. Pleasant, Mich

The Maple's Shorthorns

Kirk Levington Lad, by imported Hartforth Welfare, in service. Bulls and heifers for sale.

J. V. Wise, Gobleville, Mich.

Central Mich. Shorthorn Breeders' Assn. offer for sale both milk and beef breeding, all ages. Write M. E. MILLER, Sec'y, Greenville, Mich.

Milking Shorthorns of best Bates breeding, bulls, cows and heifers for sale.

E. H. KURTZ, Mason, Mich

SHORTHORNS. Two 4 mo. old bull calves of White-Shall Sultan Strain and a few young heifers. Priced very reasonable. J. A. WILK & Son, Alma, Mich.

Dispersal Sale of accredited herd of Milk- ing Shorthorns, on March 21st. Davidson & Hall, Tecumseh, Michigan

For Sale Registered Red Polled bulls, from good milking strain. Prices right if taken at once. WM. J. BROWN & SONS, Lawrence, Mich.

HOGS

Woodland Farm Duroc Hogs

A well kept herd, best of blood lines, with size and breeding qualities, stock of all ages for sale at reasonable prices. W. E. BARTLEY, Alma, Mich.

Brookwater Duroc Jerseys

Bred Gilts for March and April farrow. Bred to Big Bone Giant Sensation, Panama Special 55th and Brookwater Demonstrator 26th. Write us for description and prices. Or come and see them.

BROOKWATER FARM, Ann Arbor, Mich.
H. W. Mumford, Owner J. B. Andrews, Mgr.

Duroc Jerseys A few extra good fall boars, and a choice lot of spring boars of the heavy boned type popular blood lines at reasonable prices. DRODT & BERNES, Monroe, Mich.

DUROC JERSEYS: A few choice bred gilts for sale. CAREY U. EDMONDS, Hastings, Mich.

Duroc Service Boars \$20 to \$40. Bred sows and gilts \$30 to \$50. Fall pigs \$10 to \$15. All registered and eligible. We have one of the largest and best herds in state. Ample opportunity for selection. MICHIGANA FARM, Pavilion, Mich., Kalamazoo County.

Pure-Bred Duroc Jersey Hogs: we usually have good boars and sows of all ages for sale. Reasonable prices. Larro Research Farm, Box A, North End, Detroit, Mich.



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

Phillips Bros, Riga, Mich.

Durocs Herd headed by Great King Orion Col. assisted by a good son of King Orion Fancy Jr. HARRY FOWLER, Sturgis, Mich.

Duroc Jersey Swine

Breeding stock for sale at all times at reasonable prices. If in need of a high class boar, or sow any age write, or better, come to farm. Best of Blood line and we guarantee you satisfaction. Herd boars, Panama Special 11th and Home Farm Wonder. Booking order for fall pigs at \$15 each.

Thos. Underhill & Son, Salem, Mich.

AM SELLING

a great offering of bred Duroc sows and gilts March 4th. They are mostly bred to Orion Giant Col., son of Ohio Grand Champion. Get on mailing list for catalog. W. C. TAYLOR, Milan, Mich.

WEST View Duroc Farm offers spring boars from Home Farm Tippy Orion and Pathfinder Prince, with big bone and type. Ready for service, sows, fall gilts and spring gilts with quality. Write or come and see them. ALBERT EBERSOLE, Plymouth, Mich.

OAKWOOD Farm Durocs are priced so that they can make good in the feed lot as well as in the breeding pen. They are the long, tall, growthy kind. RUSH BROS., Romeo, Mich.

A FEW Duroc Jerseys, bred Sows, and extra good fall boars. MATT MATTHEWSE, Cutherville, P. O. Address Byron Center, Mich.

DUROC-JERSEYS A few good Brood sows, E. D. HEYDENBERG, Wayland, Mich.

BIG TYPE CHESTER WHITES

The prize winner kind from the best prize winner bloodlines. Early developers, ready for market at six months old. I have started more breeders on the road to success than any man living. I want to place one hog in each community to advertise my herd. Write for agency and my plan. G. S. BENJAMIN, R. F. D. 10, Portland, Mich.

CHESTERS We are all sold out of Boar, Brood Sows and Gilts. For spring pigs write WEBER BROS. Royal Oak, Mich., 10 Mile and Ridge Rd., Phone 408.

Chester Whites, bred gilts and fall pigs of excellent quality and breeding. Satisfaction guaranteed. F. W. Alexander, Vassar, Mich.

Chester Whites Bred gilts for April farrow 250 lbs. f. o. b. \$45. ALBERT DORR, Clinton, 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.

O. I. C. & Chester White Swine. Strictly Big Type with quality. Service boars, and gilts bred for Mar. and early April farrow, are all sold. Some good ones left, bred for last of April and early May farrow. All of prize winning blood lines. Have one good triennial yearling sow that I will sell. Newman's Stock Farm, R. 4, Marlette, Mich.

O. I. C's. Aug. and Sept. pigs and bred gilts for Mar farrow. CLOVER LEAF STOCK FARM, Monroe, Mich.

O. I. C. BRED GILTS

shipped C. O. D. Mason, Mich.

O. I. C. Spring boars and gilts no akin. We breed and own the Grand Champion Boar at West Mich. State Fair. We ship C. O. D. and Reg. free. GEO. M. WELTON & SON, Alto, Mich.

O. I. C's. choice gilts bred for March and April farrow. A. J. BARKER & SON, Belmont, Mich.

For Sale. O. I. C. Gilts bred for March and April farrow (at a reasonable price). H. W. MANN, Dansville, Mich.

O. I. C's A few bred gilts and fall pigs at farmers' prices. C. J. THOMPSON, Rockford, Mich.

LARGE TYPE P. C.

Largest herd of individuals in Mich. Come and see, compare, and be convinced, expenses paid if not as represented. Boars and early gilts all sold. A few late gilts, will sell open or hold and breed for late farrow. W. E. LIVINGSTON, Parma, Mich.

40 Sows. Granddaughters of the great Giant Buster, bred to a grand-son of the Yankee, the \$40,000 sire. Where can you find any better Big Type breeding? Our prices are very low, \$30, \$40. Also 50 fall pigs. Why not buy a pig? JNO. C. BUTLER, Portland, Mich. Bell Phone.

LEONARD'S Big Type P. C. Herd headed by Leonard's Liberator 438,258, the tallest, longest and Leaviest boned pig for his age in Mich. Call or write, stock in season. Fall pigs at bargain prices. E. R. LEONARD, St. Louis, Mich.

Pig Type P. C. some very choice boars double im- mune, one 1100 lb. sire and mammoth sows from Iowa's greatest herds. E. J. Mathewson, Burr Oak, Mich.

L.T.P.C. \$15, \$20 & \$25

We have a fine lot of fall pigs sired by Harts Black Price and Right Kind Clan. HART, FULCHER and CLINE, address F. T. Hart, St. Louis, Mich.

Large Type Poland Chinas

Spring boars all sold. Fall pigs at bargain prices. Bred gilts held for public sale. A. A. FELDKAMP, R. 2, Manchester, Mich.

L. T. P. C.

Gilts bred Mo. Bob. 2 sons of Clansman Image. Big Defender 2nd and High Joe, tracing back to Chief Price. H. O. SWARTZ, Schoolcraft, Mich.

BIG Type Poland-China and Holsteins. Two fall yearling gilts, sired by Haver's Giant and bred to Clansman Buster for spring farrow at \$30 each. Our spring gilts are all sold. We are offering Reg. Holstein Bulls ready for service at \$30, sired by 29 lb. bull. DORUS HOVER, Akron, Mich.

BIG TYPE POLAND CHINAS

Bred gilts for sale. Choice individuals of rich breeding at prices within your reach. Come see them or write. WESLEY HILE, R. 6, Ionia, Mich.

L. T. P. C. Boars bred to that Yearling long, and walks on a 11" bone. Offering summer and fall pigs. Clyde Fisher, R. 3, St. Louis, Mich.

Big Type P. C. Sows bred to Big Bob Mastodon. Bred to a son of Peter Pan, that sold for \$1,075 cash Jan. 5. C. E. GARNANT, Eaton Rapids, Mich.

L. T. P. C. Orange Model gilts, bred for March and April farrow. Come and see them, they will bear inspection. W. J. Hagelschaw, Augusta, Mich.

BIG TYPE Poland Chinas, leading strains at lowest prices. Both sex, all ages, and bred sows and gilts. G. A. BAUMGARDNER, R. 2, Middleville, Mich.

Poland China gilts sired by a 900 lb two years old and bred to a son of Mich. 1921 Grand Champion. ROBERT MARTIN, R. 3, Woodland, Mich.

Hampshires Bred gilts now ready to ship with fall boar pig not akin. JOHN W. SNYDER, R. 4, St. Johns, Mich.

SHEEP

A Real Bargain at Kope Kon Farms

We offer 40 big healthy yearling Shropshire and Hampshire Rams all registered at \$25.00 each. Come or write while the picking is good. S. L. WING, Coldwater, Mich.

Registered Shropshire Rams Priced to sell. Dan Booher, R. 4, Ewart, Mich.

Ten Aged Registered Delaine ewes and ten ewe lambs for sale. CALHOON BROS., Bronson, Mich.

HORSES

FOR SALE 2 Reg. Percheron Stallions and a cart Grade Draft Cattle. CHAS. BRAY, Okemos, Mich.

LATEST MARKET REPORTS

GRAIN QUOTATIONS

Monday, February 13.

Wheat.

Detroit.—Cash No. 2 red \$1.37; No. 2 mixed and No. 2 white \$1.34; May \$1.41.

Chicago.—No. 2 red \$1.30½; No. 4 red \$1.28½; May \$1.33.

Toledo.—Cash \$1.36@1.38; May at \$1.44½.

Oats.

Detroit.—Cash No. 2 white 42c; No. 3 white 39½c; No. 4, 34½@37½c.

Chicago.—No. 2 white 38½@39½c; No. 3 white 35½@36½c.

Corn

Detroit.—Cash No. 2, old 59c; No. 3 yellow 57c.

Chicago.—No. 2 mixed 53½@54½c; No. 2 yellow 54½@54½c.

Beans.

Detroit.—Immediate and prompt shipment \$5.30 per cwt.

Chicago.—Choice to fancy hand-picked Michigan beans \$5.75; red kidney beans \$7.

New York.—The market is steady. Choice pea at \$5.50; red kidney \$6.60 @6.75.

Rye.

Detroit.—Cash No. 3 91c.

Chicago.—Nominal.

Toledo.—91c.

Seeds.

Detroit.—Prime red clover, cash at \$14.75; alsike \$12.25; timothy \$3.35.

Hay.

Detroit.—No. 1 timothy at \$18@20; standard and light mixed at \$18@19; No. 2 timothy \$16@18; No. 1 clover mixed \$16@17; rye straw \$13.50@14; wheat and oat straw \$12.50@13 per ton in carlots.

Feeds.

Detroit.—Bran \$33; standard middlings at \$33; fine middlings at \$33; cracked corn \$28; coarse cornmeal at \$26; chop \$23 per ton in 100-pound sacks.

WHEAT

It is still too early to estimate the severity of damage from dry weather in the southwest but there has been but little relief thus far and every day without rain or snow heightens the critical condition of the crop. Some wild estimates of acreage abandonment as high as forty per cent in Kansas have been made but there is still time for spring rains to repair a great deal of the damage. With a bullish statistical situation and prospects of a small winter wheat crop, the market promises to be influenced very strongly by the character of the weather in the southwest. In spite of the crop scare in Kansas, farmers have been selling wheat rather freely apparently in an effort to discharge financial obligations. The movement to primary markets did not increase in the last week in spite of higher prices and it is not believed that the present rate of arrivals can continue long.

CORN

Although the quantity of corn arriving at terminal markets is far above the average for this season of the year the advance in wheat prices, coupled with a broad demand for corn, has advanced corn prices to the highest level in several months. The bulge has induced heavy selling on the part of producers and the present rate of movement may continue for two or three weeks longer. Exporters are buying briskly at the seaboard and boat room cannot be obtained fast enough to keep eastern ports cleared so that a partial embargo on shipments to Baltimore has been necessary on account of large holdings on track at that point. Unofficial estimates suggest a reduction of 25 to 33 per cent in the Argentine crop as a result of drouth and locusts. This will favor exports from the United States during the rest of the year. Legislation permitting the War Finance Corporation to loan money to foreigners to purchase products in the United States also will help the movement of corn for export.

OATS

The oats market is following other grains and has not yet shown any independent strength. Farm reserves are believed to be unusually small. Re-

ceipts at primary markets, however, continue large and the visible supply at terminals is around 68,000,000 bushels. The total disappearance of oats from primary markets during the first half of the crop year was only 91,445,000 bushels. Unless the rate of disappearance increases and the visible supply is reduced more rapidly, prices will not make rapid headway upward, except as they advance in sympathy with other grains. The Canadian crop estimate was reduced recently and the Argentine crop is now estimated at only 32,000,000 bushels, compared with a five-year average of 53,000,000 bushels.

SEEDS

Clover seed prices reached a new high level last week. Offerings are light and there is a fair demand, although it is believed that buying by farmers will come later than usual. Statistically, the market is in a strong position. The price which farmers will be willing to pay is the chief limiting factor in further advances.

FEEDS

Wheat feed prices recovered all of their recent loss and advanced into new high ground for the season, due in part to the advance in the wheat, corn and oats markets. Actual consuming demand is limited, as present prices make country buyers hesitate. Oil meal prices are practically unchanged.

POTATOES

The total movement of potatoes for the season up to February 4 amounted to 165,364 cars compared with 147,362 cars in the same period last year. Since the 1921 crop was smaller than that of 1920, the quantity remaining in producing sections is believed to be smaller than a year ago. Wisconsin and Colorado are said to have a large surplus still to be shipped. Northern sacked round whites are quoted at \$1.50 to \$1.70 f. o. b. shipping points and \$1.60 to \$1.95 in the Chicago carlot market.

Live Stock Market Service

Monday, February 13.

DETROIT

Cattle.

Receipts 557. Fat cows, bulls and canners steady; others 25@35c higher. Best heavy steers \$ 6.25@ 7.00 Best handy wt bu steers 6.50@ 7.10 Mixed steers and heifers 5.50@ 6.25 Handy light butchers.... 5.00@ 5.25 Light butchers 4.50@ 4.75 Best cows 4.50@ 5.00 Butcher cows 3.50@ 4.00 Common cows 3.00@ 3.25 Canners 2.25@ 3.00 Best light weight bulls .. 4.50@ 5.00 Bologna bulls 4.00@ 4.50 Stock bulls 3.50@ 4.00 Feeders 5.25@ 6.00 Stockers 4.75@ 5.00 Milkers and springers.... \$ 40@ 75

Veal Calves.

Receipts 532. Market steady. Best \$12.00@13.00 Others 6.00@10.00

Hogs.

Receipts 1,759. Market steady. Mixed hogs 10.15 Pigs 10.25 Roughs 8.00 Stags 4.50@ 5.00

Sheep and Lambs.

Receipts 716. Market steady to 25c lower. Best lambs \$13.75@14.00 Fair lambs 11.25@11.75 Light to common 7.50@ 8.50 Fair to good sheep..... 5.00@ 6.50 Culls and common 2.00@ 3.00

CHICAGO

Hogs.

Estimated receipts today are 69,000; holdover 1,323. Market active, mostly 10@15c lower. Bulk of sales \$9.50@10; tops \$10.10; heavy 250 lbs up \$9.50@9.75; medium 200 to 250 lbs \$9.65@10; light 150 to 200 lbs \$9.90@10.10; light hogs 130 to 150 lbs \$9.90@10.10; heavy packing sows 250 lbs up \$8.25@

HAY

Except for alfalfa, the demand for hay continues disappointing to producers and dealers, although spells of cold weather bring an occasional increase. Receipts of hay at Kansas City, the leading distributing market, since the first of the year, total only 2,154 cars compared with 3,287 cars in the same period last year, and 7,786 cars in the same period two years ago. Michigan, Wisconsin and the Dakotas seem to be shorter on forage than other states.

POULTRY AND EGGS

Receipts of eggs have fallen off recently and the second week in February promised to run considerably behind the corresponding week of 1921. The trade is uneasy, however, as an increase is expected at any time and price reductions are likely although there may be no sharp break from the present level within the next two or three weeks. It is still necessary to draw upon cold storage supplies in order to satisfy the demand. On February 1 the remaining stock in cold storage according to the preliminary report of the bureau of markets was 182,000 cases. The five-year average for that date is 173,000 cases. During January the decrease in the cold storage supply was 704,000 cases compared with a five-year average disappearance for the month of 809,000 cases.

Detroit.—Eggs, fresh, candled 38 @39c. Poultry, hens 26@27c; ducks 28@30c; geese 18@20c; roosters 15c; turkeys 35c.

Chicago.—Eggs fresh firsts at 36@36½c; ordinaries 31@32c. Poultry, hens 24½c; roosters 18c; springers at 26c; ducks 28c; geese 18c.

BUTTER

Butter markets presented a mixed appearance last week with eastern cities weak and Chicago disposed to advance. Receipts of fresh butter at New York increased notably with 1,300 boxes of Australian butter received by mail from the west, and about 5,000 boxes more of Argentine butter due to

arrive. Reports of a lighter make have not been borne out by market receipts although at Chicago the supply was barely sufficient to satisfy the requirements. Nevertheless, receipts at that market were in excess of the same week of 1921.

Prices for 92-score fresh butter were:

Chicago 36½c; New York 37½c. In Detroit fresh creamery in tubs is selling at 34@35c per pound.

BEANS

The market is getting more and more in favor of the seller. Therefore some dealers are inclined to ask higher prices. Red kidney beans are doing better than last week and pea beans are in fairly good demand. One of the large chain stores in New York is selling pea beans to consumers at five cents per pound, which is much lower than the wholesale rate.

APPLES

The apple markets advanced again last week, Baldwins being quoted at a range of \$7.50@8.50 in wholesale markets, and \$7@7.25 f. o. b. New York shipping points. Boxed apples advanced more than barreled stock, with extra fancy Spitzenbergs quoted at \$2.75@4 in wholesale markets.

WOOL

Demand for wool in the principal markets subsided last week on the part of both manufacturers and dealers. Mill operations are said to have decreased slightly and the demand for goods with some exceptions, has not been entirely satisfactory. A belief is spreading that the advance has about exhausted its momentum. In the range country contracting of the new clip is active and prices have scored further advances. Purchases have been largely for speculation. A great many wools have been bought at a range of 28@32c and a bid of 36½ cents was refused for the Jericho, Utah, wool pool for which 16½ cents was the initial bid a year ago. The Boston market is quoted as follows:

Michigan and New York fleeces, delaine unwashed 44@45c; fine unwashed 34@36c; half-blood unwashed 39@41c; three-eighth blood unwashed 39@41c; quarter-blood unwashed 37@39c.

DETROIT CITY MARKET

Trading was fairly brisk on farmers' market with rhubarb, apples, carrots, poultry and parsnips in greatest demand. Apples are quoted at \$1.50@3 per bu; cabbage, parsnips and carrots \$1.50@2 per bu; rhubarb 50c@1 per dozen bunches; potatoes \$1.15@1.30; eggs 45@55c.

GRAND RAPIDS

Grain quotations in Grand Rapids went to the highest level of the year this week and markets on live stock, particularly on hogs and lambs, were decidedly stronger. Potatoes eased 5 @10c per cwt. Quotations as follows:

Grain.—Wheat, No. 1 red \$1.25; No. 1, white \$1.22; rye 80c; barley 80c; oats 40c; corn 62c bu; buckwheat at \$1.35 per cwt; beans white \$4.75 per cwt; red kidney \$4.50@5 cwt.

Live Stock.—Hogs \$7@8.50 cwt; fat sows \$5@5.50 cwt; dressed pork \$11@12 cwt. Cattle market is steady and prices unchanged; top steers and heifers \$5.50@6.50 cwt. Sheep, lambs \$11 @12 cwt; ewes \$3@5.

Vegetables.—Potatoes \$1@1.10 bu; celery practically none offered; cabbage \$1.50 bu; carrots, turnips and rutabagas \$1@1.50 bu.

Poultry.—Market dull, with the demand largely for the heavy fowls and springers at 22@24c lb. Egg market unsettled; firsts 32@33c.

LIVE STOCK SALES.

Holsteins, also Sheep and Swine.—Feb. 25, W. F. Reading, Brooklyn, Mich.

Shorthorns.—May 10, Greenville Fair Grounds, Central Michigan Shorthorn Breeders' Association.

"The young man with nerve and serve can look forward to farming as an occupation which will command his talents and reward him for using them.—Vivian.



Mehring's Milker

Was first Pat. 1892. It has been successful ever since. It still has the lead in efficiency, and cheapness of operation and repair. One person can milk 20 cows per hour. Boys or girls can operate it. Price \$80.00 cash or \$85.00 on trial. Write to, W. M. MEHRING, Keymar, Maryland

STROUT Wanted a Man

The man took the job. He made \$745 in the first month. Another made over \$10,000 the first year. These men entered the door of opportunity when it opened.

STROUT

Now Wants a Man
Many opportunities like the above are still open. There are several vacancies in your state for men of ability. Experience not necessary, but you must own an automobile and furnish glitche references. For details apply at once.

E. A. Strout Farm Agency, Inc.
814 Ford Bldg., Detroit, Mich.

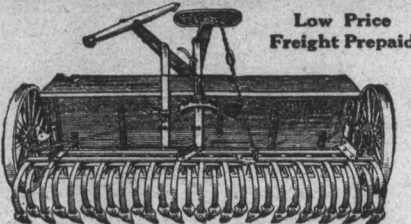
POWER AS YOU WANT IT

Edwards engines are convertible from 1 1/2 to 6 H. P. as you want it. Economical at any power. Burn kerosene or gasoline. Portable—used anywhere. No investment, one up-keep, power for any job up to 6 H. P. Pumps, grinds, saws, etc.

ONLY GENERAL PURPOSE FARM ENGINE
Busiest machine on farm. Sold direct. Pre-war prices, a remarkable bargain.

THE EDWARDS MOTOR CO.
919 Main St. Springfield, Ohio

THE GUARANTEE SPREADER



A Giant of a lime and fertilizer spreader. Spreads evenly or sows in rows. Thrown in and out of gear from seat. Harrowing and Covering Attachment, acre-measure, screen lid, seat, neck-yoke, double and single-trees. Write for free spreader catalog. Guarantee Mfg. Company, Dept. B, Woodsboro, Md.

Farms and Farm Lands

198-Acre Farm Near City 5 Horses, Crops, 29 Cows

Bull, 4 calves, poultry, 2 double unit milkers, gas engines, cream separator, extensive equipment included; in one state's finest dairy districts; convenient RR and city; 125 acres rich loamy tillage; spring-watered pasture, woodland; sugar grove, outfit; 40 apple trees, other fruit; attractive 8-room house, piazza, modern 41-cow barn, cement basement, 2 silos, stable, garage, milk and poultry houses. Owner retiring, sacrifices, \$11,100, about value buildings, only \$4100 cash, easy terms. Catalog free.

W. R. MAYNARD, Canastota, N. Y.

The Best Way To Buy A Farm

Farms in the south as productive as Western farms can be bought at low prices and bring bigger net profits owing to mild climate and good markets. Unusual opportunities for dairy farming. Study these conditions before buying. Good farms can be rented for a year with option to buy at a fixed price. Full information free. Write J. C. WILLIAMS, Manager, Southern Railway Development Service, Washington, D. C.

100-Acre Michigan Farm With Horses, Poultry, 16 Cows And

Young stock, cream separator, blacksmith outfit, full modern implements, feed for stock, vegetables for winter included; convenient R.R. station, stores, etc.; 60 acres rich loam tillage, spring-watered pasture, fruit; good 2-story 7-room house, 50-ft. barn, windmill. To close out all \$5500, less than half cash, easy terms. Details page 78 illus. Catalog 1100 Bargains. FREE. STROUT FARM AGENCY, 814 BC Ford Bldg., Detroit, Mich.

50-Acre Dixie-Highway Farm Near Town; Horses, Cow

Poultry, sow, machinery, vehicles, tools included; district highly productive farms; motor bus passes; city markets; level, loamy tillage; pasture and woodland; lots fruit, berries; buildings valued over \$4000; attractive 6-room house, piazza; good barn, granary, poultry house. Owner's disability forces sacrifice \$5500 part cash, easy terms. Investigate now. Catalog free. B. B. Burlington, Lawton, Mich.

To Rent, 160 Acres dairy farm in Detroit milk area. Address Box 45, Hadley, Mich.

Your Chance. \$7000 buys good 80 acre farm, nice new buildings, near town, only \$2000 needed. DeCOUDRES, Bloomdale, Mich.

FOR SA'E Farms any size or price, best of soil and locations, pasture land, lake and river frontage. J. H. Strang, Lakeview, Mich.

UNITED STATES EXPORTS LARGE FOR 1921.

CONTRARY to the general impression that there has been a great falling off in the quantity of exports of agricultural products during the past year, the department of commerce presents figures showing that the total value of exports of principal agricultural products for 1921 amount to over 20,000,000 tons compared with 16,500,000 tons in 1920, and 10,500,000 tons in 1913. In fact, we exported the largest total value of such products of any year in our history. The principal commodity exported is grain. There was a slight decline in the exports of dairy products. As ninety per cent of our agricultural products are consumed at home, the department of commerce officials conclude that the apparent surplus of farm products is due to under-consumption in this country as a result of unemployment and industrial distress in the industrial regions.

GRATIOT CLAIMS RECORD IN BEANS.

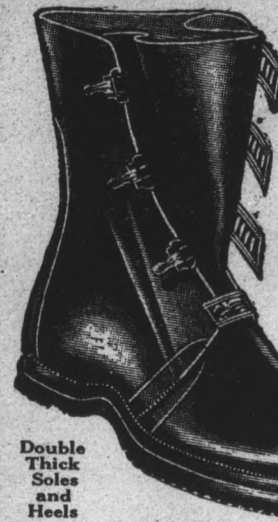
IT is claimed that more beans are raised near Ithaca than in any other section in Michigan. While the past fall the price was not entirely satisfactory to farmers, still they made more on this crop than on any other, and the acreage this year will be greater than in former years, it is said. The fact that Ithaca elevators are handling more beans than any other place, according to its size, was brought out when government statistics were completed, showing the number of cars shipped from this point. —M.

BROOKWATER SALE.

EXPECTATIONS were surpassed at the sale of pure-bred Duroc bred sows held by Prof. Herbert W. Mumford, of Brookwater Farm, at Ann Arbor, on February 7. A good attendance gave life to the bidding and despite the scarcity of money, forty-six animals of superior breeding sold for an average of \$54. All of these animals were taken by Michigan breeders and farmers save two, these going to Illinois. It is most encouraging to know that Michigan farmers are in a position to take this good stock and that this blood is to remain in the state to maintain and improve our swine herds. Following is a list of the sales:

1 A. E. Waltz, Ypsilanti.....	\$61.00
2 J. A. Brown, Detroit	70.00
3 A. W. Howe, Mason	50.00
5 T. J. Rixon, Britton	51.00
7 Will L. Allen, Ypsilanti.....	55.00
8 Gottlob Hertler, Ann Arbor..	42.00
9 W. L. Rankin, Ann Arbor.....	50.00
10 J. R. Parsons, Howell.....	45.00
11 W. W. Davis, Ann Arbor.....	67.00
12 H. E. Spaulding, Chelsea....	52.50
14 Edward Uphaus, Manchester	49.00
16 D. A. Ricker, Chelsea.....	49.00
17 G. A. Mills, Tecumseh.....	60.00
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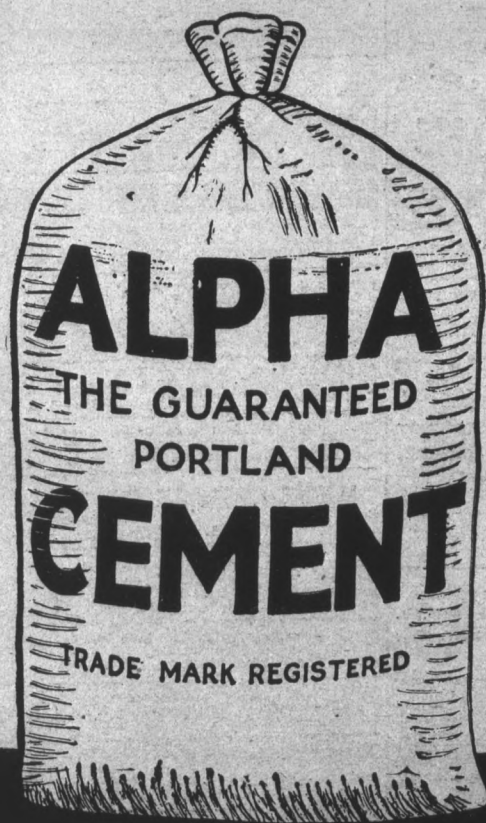
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