

MICHIGAN FARMER

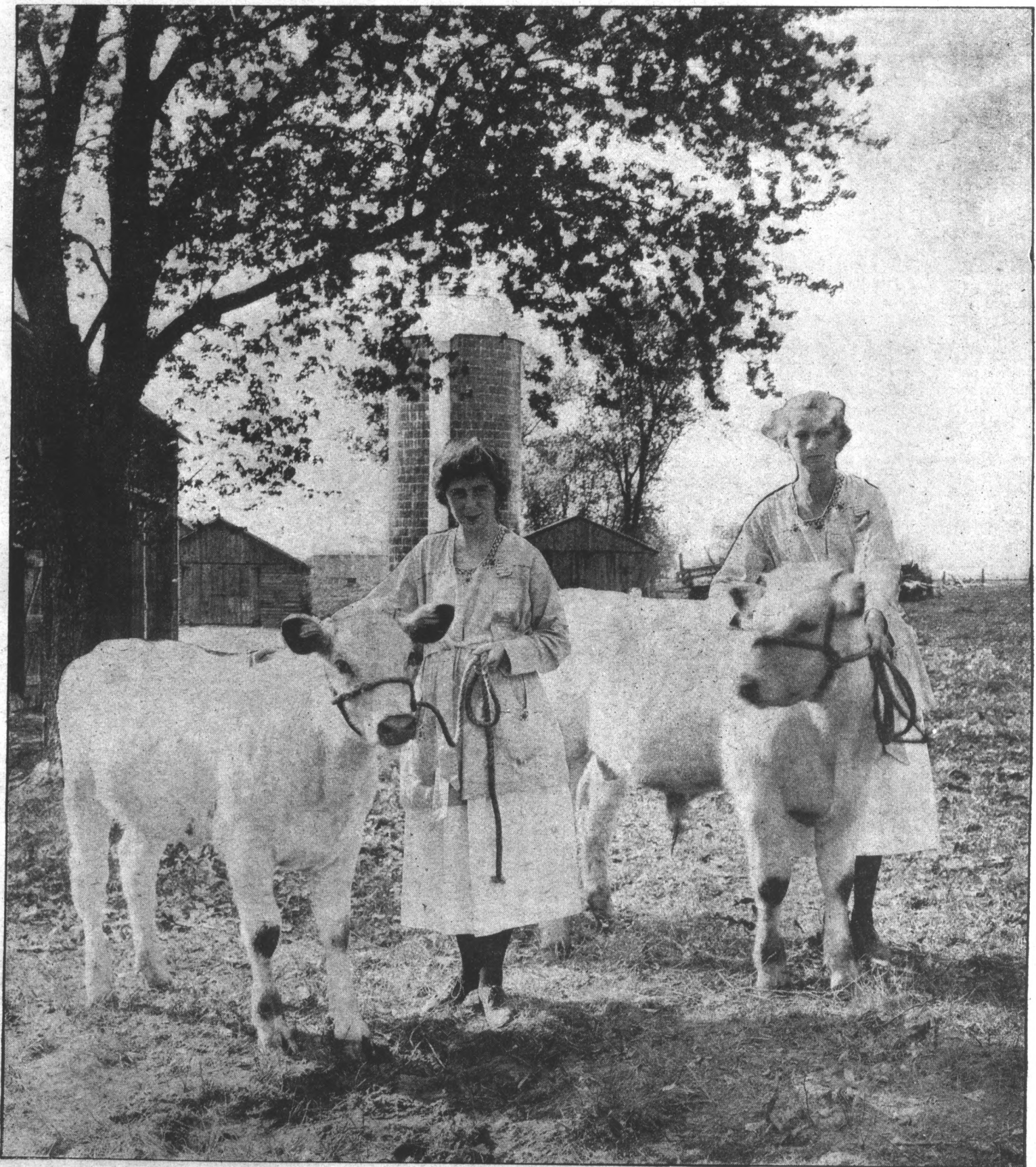
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CHICAGO OFFICE-111 W. Washington St.
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VOLUME CLVII NUMBER TWENTY-THREE

DETROIT, DECEMBER 3, 1921

CURRENT COMMENT

Sending Seeds of Friendship

VEGETABLE growers of America had a happy thought when they passed a resolution earnestly requesting congress to allocate the congressional free seeds to the devastated people of Russia.

Congressional seeds have been looked upon by many people as a political privilege through which congressmen can show their generosity to the folks back home. At least there has been nothing found in connection with this seed distribution to lead one to believe that it is for public good.

The seeds are not sent out for purposes of testing varieties or for the gathering of scientific data but rather as a reminder that the congressman is glad he is elected.

Only too often these seeds are left forgotten on the mantel shelf or on the china cabinet while we go to the corner store to buy seeds in handsome ten-cent package, or by the quart, for the garden.

Here is a chance for congress to do an unselfish act by sending their allotment of seed to the stricken nations. This may greatly strengthen their friendship for America. Friendship and foreign trade often go together and we need foreign trade.

Flour From Michigan Wheat

THE bulk of the flour which is used in Michigan State Institutions has recently been purchased from Kansas or other western points. The alleged reason for this practice is the claim that it makes better bread. The real reason probably is that bids have been secured on a price for delivery at any of the state institutions as a means to the end of simplifying the detail of purchasing this essential foodstuff. But this practice is likely to be discontinued in the future. Some weeks ago the Michigan Millers' Association presented arguments to the State Administrative Board for the use of Michigan flour in state institutions, and the board gave opportunity for the making of comparative tests in which straight flour made from Michigan wheat made an excellent showing, both as to quality and economy.

To most of the sturdy men and women of the present generation who were raised on bread made from straight Michigan flour the contention that this product is not good enough in quality

to use in our state institutions will not make a strong appeal. The flour needs of these institutions can be supplied with a good product grown and milled within easy trucking distance without detriment to the inmates and to the advantage of Michigan industry. Slight changes in the technique of the bread-making process may be necessary to this end but the process should be fitted to the material used, rather than the material to the process.

The State Tax Problem

THE Tax Revision Commission appointed by the last legislature to make an investigation of tax laws and conditions in this and other states and submit its recommendations for the revision of Michigan's tax laws to the next legislature has its investigation under way. It is now seeking the views of officers who are charged with the assessment and collection of taxes in this state on various phases of the taxation problem, particularly in relation to the desirable scope, limitations and administration of the state tax laws.

This question of taxation is one well worthy of careful study by every citizen of the state, and particularly by every farmer, since under our present tax laws the farmers and home owners, whose property is visible and easily valued, bears the brunt of the tax burden. During the next few weeks a number of important Michigan farmers' organizations will hold their annual meetings. These occasions will afford opportunity for the expression of the sentiment of their membership on this important question of the equal distribution of the burdens of taxation. The wholesome influence of the expression of such carefully considered opinion cannot be doubted. Such expression last year was responsible in large measure for the serious consideration of the proposal for a state income tax. The present expression of well considered opinion by the farmers' organizations of the state will have a wholesome influence upon the recommendations of this commission and the subsequent enactment of more just tax laws in this state.

The expression of a demand for strict governmental economy would also be in order. The public has gone the limit in the approval of expenditures for public improvement, often accompanied by the authorization of bond issues, the payment of which will burden the next generation as well as the present. And there is every prospect that payment will have to be made in high-priced dollars as measured by the value of commodities and service through which they are secured for the minimum of public improvements accomplished with the cheap dollars secured through war time and post-war bond issues. Under these conditions, every public servant should be held to a strict accounting for the economic and efficient expenditure of public funds.

Getting a Good Start

LAST week I had a chat with a wide-awake country boy who lives in Gratiot county. He is now sixteen years of age and for the past six years has been saving his money by depositing it in a local bank. At the present time his account will go a long way toward giving him a special education. Besides having a substantial fund to his credit this lad has received much first-hand information on banking and has become personally acquainted with the banker, which information and acquaintance are making a good foundation for securing credit later should he be in need of such.

This banking experience has not

only taught this lad how to save money, but it has been without doubt a real practical influence in his methods of spending. As he grows into manhood he will have an advantage over the men who failed to get this business experience in their youth. Inasmuch as the next generation of farmers will more and more need training in practical business methods, would it not be wise for parents to urge and assist their children to undertake early the handling of funds through some regular financial institution?

Why a Bull Association

A NUMBER of arguments have been put forth to induce farmers and dairymen to join bull associations. Some of these arguments have been sound, while others are perhaps to be questioned. We have just received a list of the various bull associations of the country. With this list came some classified data on the character of the herds owned by the members. This information tells clearly the one big reason for the rapid growth of these organizations in various sections of the country.

The outstanding reason is that better cows are raised and kept on the farms of the men who belong to these associations. Here is the evidence: Back in 1918 there was in the herds owned by these men one pure-bred cow to every 19.4 grade cows; in 1919 the ratio had been reduced to one pure-bred to every eight grades; in 1920 it was one pure-bred to every 5.2 grades, and this past year the ratio had narrowed down to a pure-bred for every 4.8 head of grade animals. Whatever argument has been used to induce men to become active members of these organizations it is apparent from this evidence that bull associations are altogether worth while and public-spirited farmers cannot go amiss by encouraging the extension of these institutions.

A Road to Prosperity

MANY good things were said at the recent convention of the American Farm Bureau Federation at Atlanta, Georgia. The delegates and visitors were deeply impressed by the saneness of, and the constructive suggestions in the opening address by President Howard of the federation. He suggested practical lines of activity along which the organization could turn its energies during the coming twelve months. Among the lines mentioned were the problems of transportation, of labor, of production and of marketing. After sketching the development of the commodity marketing idea which the federation has fostered, Mr. Howard drew a picture of the economic woes of America and the world, and then rising to full stature said:

"There is an old law of economics printed in one of the oldest books dealing with human relationship but too much forgotten in our modern lore and everyday business. It is the Golden Rule of human relations. I declare unto you that the Golden Rule is just as sound economically, just as essential morally today as when it was first enunciated on the mountain top. If it could be put into daily practice for one month by manufacturers, by railroads, by bankers, by merchants, by laborers and by farmers, we could forget all our talk of credits and tariffs and taxes and agrarian blocs and manufacturers' blocs and unemployment and low prices and congealed credits. There would be no panic imminent. Those who are saying that our civilization is tottering would of necessity have to readjust their positions. It would constitute the surest and shortest route to permanent prosperity."

Standardizing Our Agriculture

ONE of the main subjects to be discussed at the Michigan State Horticultural annual meeting is the standardizing of the fruit varieties of the state. The consideration of this subject is a step in the right direction as standardization is one of the great fundamentals in business success.

Industry would be in chaos if it attempted to produce a variety of material in kind, size and condition like that produced on farms of similar climatic and soil conditions. In fact, it has been the strict standardization that has been back of the biggest manufacturing successes.

We are realizing the value of standardization in agriculture and where it has been tried it has proven successful. In the west, certain sections have confined themselves to a single variety of fruit and through the use of publicity have justly made themselves and the variety known throughout the world. In our own state, the short experience with the standardization of potato varieties has convinced us of its value.

It is the consideration of such things as these which show that farming is at last getting on a business basis and will use the fundamentals that make other lines of endeavor successful.

Yep, I'm from Michigan

EVERY year about this time I take a health trip. I go over to Chi. and let the lake breezes blow through my whiskers and ectera, and take in some of these "calf shows" that they charge about a dollar to get in. I don't take my wife along, so as to be relieved of all family cares.

But these night calf shows are not the only live stock exhibits I take a look in on. For inst. every morning I take a constitutional on the nickle tramway, that costs eight cents now, to the place where there are more deaths in a day than any place in the world—the stock yards.

I spend all day in the ampitheatre (you see I like theaters) where they are holding the greatest calf and cow, and horse and bull, and pig and sheep show in the universe.

While I was rambling around there admiring the beauties of nature, I come to another place that was labeled hay and grain show. It looked like a nice place, so I went in. I guess I struck the hay part of the show first, for a fellow yelled to me right away, "Hay, there, you from Michigan?" Probably it was by the shape of my thumb or something, that he knew that I come from some part of the mitten state. Well, I said "You bet!" Then he said, "I'll show you something."

Maybe because he thought I was dry he first took me over to the rye exhibit. And the air around the Michigan exhibits looked blue for the blue ribbons on them, but the folks in the vicinity were as rosey as they could be, as they were all from the home state. Somebody told me we got twenty-five firsts out of thirty, I could not count them.

Then he took me to the wheat exhibits where there was a bunch of blues on Michigan's Red Rock, and over at the hay exhibit we took the big timothy prize and a lot of others. I can't tell you what else we all won, but maybe because of the gladness in my heart, it seemed that everything was Michigan, that's all I could hear.

And talk about health, why, my solar plexus seemed to stick out about two feet farther than it ever did before. I sure did feel peppy, something like the college kids when they win a football game. In spite of all this bootlegging they are talking about, this was the greatest stimulant I could find in Chicago.

HY SYCKLE

Swine Feeding Day at Ames

By John M. Evvard

Animal Husbandry Section, Iowa Experiment Station

CLOSE to one thousand farmers and swine men put in a big day November 15 at the Iowa Experiment Station, Ames, Iowa, studying the practical results secured in the swine-feeding business. The hogs which had been on experiment all summer had especially good tales to tell, tales that can be carried home and put into farm practice.

The practicability of mineral feeding was the main theme. The results of a number of different experiments involving approximately one thousand pigs were presented.

Emphasis was placed on a number of important essentials in the proper and profitable raising of swine for pure-bred pen and market. Among others, the following teachings of the experiments were emphasized:

The Addition of Minerals to the Ration of Fattening Pigs on Rape Was Profitable.

Weanling pigs, weighing approximately fifty-three pounds on July 1, were fed in twelve different groups of ten pigs each on rape pasture, all the groups receiving shelled corn self-fed plus a hand-fed supplemental feed mixture, 0.3 pounds per pig daily, evening feed, said mixture consisting of meat meal tankage twenty parts, corn oil cake meal, or corn germ meal forty

jump to the conclusion that this simple mixture of limestone and salt is best under all conditions—any more than we would conclude that a certain simple spark plug, having worked quite satisfactorily in a certain simple car, is the best for all kinds of cars, even the most elite. The character of the basal ration used has much to do with the setting of the specifications for the most successful mineral mixture to be used with that ration.

The cheapest gains were made in the group receiving equal parts of high

ration, although not to the marked degree one might expect.

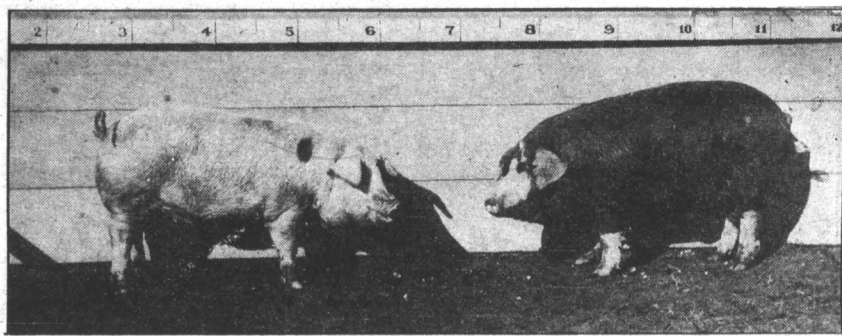
Much Depends Upon the Basal Ration Used as to the Efficiency of the Minerals.

When mineral mixtures are added to a ration that is already rich in minerals, then naturally, we would not expect beneficial results from said use.

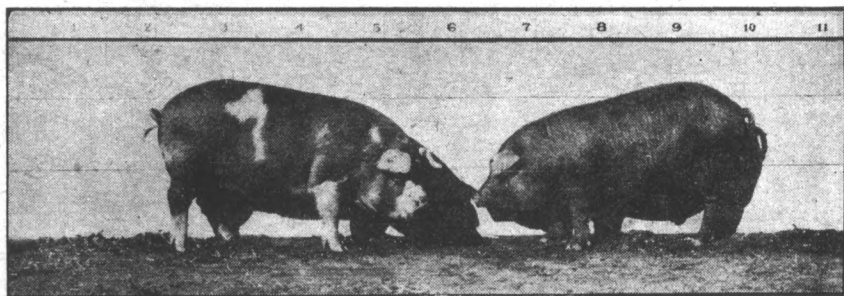
On the other hand, if the basal ration is all right in other particulars, and still lacks minerals, then the addition of minerals should be much more likely to give favorable and per-

these, then the addition of extra minerals to the ration is attended with only a slight difference in the results. However, to play safe, a good many of our farmers feel, and we agree with them, that it is advisable to allow the principal mineral materials, such materials as should form the basis of a good mineral mixture, such materials as common salt, a high-grade, high calcium, finely ground limestone, or air-slaked lime, spent bone black, or finely ground bone meal previously sterilized, with a little potassium iodide. Wood ashes, a farm favorite, may well be included in the above list. These materials furnish the principal elements that are likely to be lacking in ordinary farm elements. There are a good many who prefer to add such materials as powdered sulphur, Glauber's salts, copperas, and epsom salts.

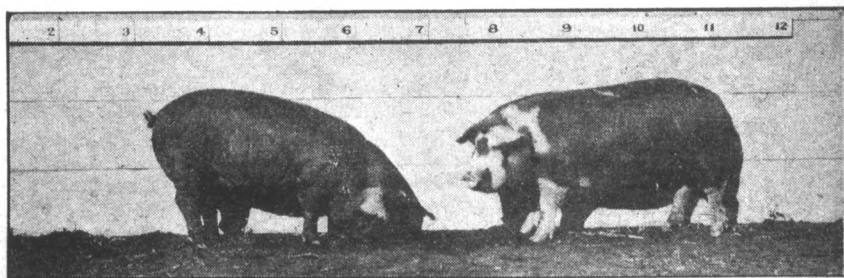
There is still some question, however, in regard to the practical value of these compounds. We find that when pigs are allowed free access to other material in which these are included, all in separate boxes, the pigs will eat considerable flowers of sulphur and even more of Glauber's salts. They will also eat some epsom salts, say a per cent or so, and copperas in about the same quantity as epsom salts, but neither of these to the de-



Salt and Limestone Makes Good Mineral Feeding. The Grinning Pig on the Left Got None of this Mixture, while the Contented One on the Right Did.



Here the Simple Mineral Mixture which was Fed to the Spotted Pig on the Left Seemed to Give Slightly Better Results than were Received on a More Complicated Mineral Ration as Described in the Text.



The "Rooting" Gilt with Nose to the Ground Did Not Receive Any Minerals Excepting those Supplied Naturally in the Ration She Ate. Her Partner on the Right Received Salt, Limestone, Rawbone Meal, Equal Parts.

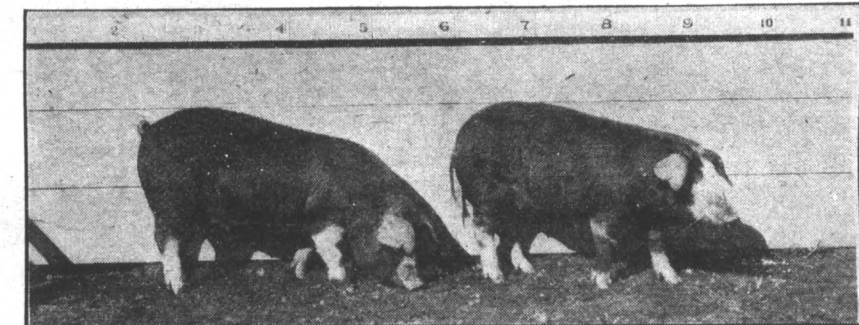
parts, and linseed oil meal forty parts. Two groups, to which the others were compared, received nothing but this mixture, whereas all the other ten groups received different mineral mixtures, some simple, and others somewhat complex in make-up. All groups receiving mineral mixtures, and more particularly the group receiving the simple limestone-salt mixture, equal parts by weight, showed favorable results from the mineral feeding, all of the mineral-fed groups out-gaining both Check groups. Every one of the mineral-fed groups ate more feed than the highest consuming Check group, thus indicating that minerals had a tendency to improve the appetite. Nine out of the ten groups of the mineral-fed groups required a little less feed for one hundred pounds gain than the best Check group, thus indicating that proper mineral feeding tends to save a little feed, particularly the high-priced supplemental feed.

There seemed to be very little difference between hand-feeding and self-feeding when it came to efficiently allowing the minerals, although the figures indicate that it took the pigs a month or two in order to learn that the minerals were good for them, during which time hand-feeding would be apparently advisable.

The mineral mixtures were allowed at the rate of approximately three-fifths of a pound per month.

In this test the simple limestone-salt mineral mixture, consisting of equal parts by weight of high calcium carbonate limestone, finely ground, and common flake salt, appears to have given about as satisfactory feeding results as any of the mineral mixtures used in this test to date.

We must not, however, at this time,



The Vigorous Alfalfa-raised Gilt on the Left is Easily the Better Pig of the Two—the Other Coming from Sweet Clover Pasture. Both Received a Limited Ration of Corn and Meat Meal Tankage and Whole Oats.

calcium limestone and salt, the pigs making an average daily gain of 1.36 pounds, and requiring 366 pounds of feed for one hundred pounds gain, this costing \$2.95.

The group making the next best showing received a mixture made up approximately as follows: Salt thirty-nine parts, spent bone black (finely ground) thirty-two pounds, wood ashes fifteen pounds, limestone thirteen pounds, with which was mixed two-fifths of a pound of potassium iodide. It is recommended, however, that the potassium iodide allowance should not be this high in practice, an ounce per one hundred pounds of the other mixture being the amount advised. This group gained 1.33 pounds daily, and required 376 pounds of feed per 100 pounds of gain, this costing \$3.06.

Where minerals were not fed, the cost of gains averaged \$3.35, and the average daily gain was 1.12 pounds, with a feed requirement of 415 pounds per 100 pounds gain.

It will thus be seen that the tendency of minerals was to help out the

haps outstanding results. Even then, much depends on the kind of pigs used and the length of the feeding period. If the experiment is of short duration, it is likely that the pigs may have enough reserve of minerals in their bodies to tide them over, and hence the addition of minerals would not show up unless the feeding period was over a long period. On the average farm, where the pigs are taken through month after month, and year after year, there is a much better opportunity for mineral-feeding to show up favorably than in short-time experiments, hence the reason why, in our Ames' work, we are running some experiments over a long period of time.

Our experiences have been that if one has a basal ration consisting of ordinary grains, and which is supplemented by such high-class, good-protein, good-mineral feeds as milk—whole, butter, skim, or some of the by-products, such as condensed buttermilk, or dried buttermilk—or alfalfa, or red clover, or alsike clover, or tankage, or fish meal, or a happy combination of all of these, or any of

gree that they consume sulphur and Glauber's salts.

If one wishes to add sulphur, we would suggest approximately ten pounds in addition to 100 pounds of the standard materials mentioned above, with perhaps about six pounds of Glauber's salts, five or less of epsom salts, or two or less of copperas.

Developing Gilts Successfully.

It was demonstrated that the developing of young, weanling sow pigs into breeding gilts could be very well done on our standard pastures when only three feeds were used; namely, shelled corn, whole oats and tankage. The best results were secured in 140 days of developmental feeding on alfalfa pasture, with red clover, alsike clover, and rape giving results quite similar. Bluegrass, in the best season, was also a good pasture because of the moisture conditions, whereas annual sweet clover was the poorest of all the pastures in the test.

These gilts at seven months of age, on alfalfa, averaged practically 190 pounds; on red or alsike clover or rape approximately the same, but just a shade less. On bluegrass they averaged 181 pounds, and on sweet clover 179 pounds. The feed required for 100 pounds gain ranged from 378 pounds to 490 pounds. The group that required 378 pounds of feed ate as follows: Whole oats 204 pounds; shelled corn 145 pounds; meat meal tankage twenty-nine pounds.

The ration as fed to these gilts is a practical one, and consisted of practically three pounds of mixed shelled corn to 100 pounds live weight of the gilt daily, plus .3 pound of meat meal tankage per head once daily allowed dry, in addition to whole oats self-fed.

(Continued on page 543).

LATE AGRICULTURAL NEWS

SOME LOWER FREIGHT RATES.

THE effective appeal made by the farm organization Washington representatives to the Interstate Commerce Commission for lower freight rates on farm products, has resulted in the issuing of a positive order by the commission requiring railroads to put into effect on or before December 27, 1921, an approximately sixteen per cent decrease in hay and grain rates. The commission also announced its decision requiring the roads to fix the rates for coarse grain, such as corn at ten per cent less than the rates on wheat. The commission has disregarded the agreement by the railroad executives to effect a voluntary reduction of ten per cent in freight rates on agricultural products.

T. B. ERADICATION WORK.

THE summary of tuberculosis eradication work of the United States Bureau of Animal Industry in cooperation with the states, shows that Ohio has 503 accredited herds with 9,613 cows; Michigan 227 herds with 4,984 cows; Pennsylvania 743 herds with 12,325 cows. Michigan, however, is rapidly pushing to the front with 6,249 herds and 58,204 cows once tested and found tuberculosis free; while Ohio has 1,284 herds and 14,550 cows, and Pennsylvania 1,067 herds and 14,377 cows once tested and found disease free.

This tuberculosis eradication work has developed into a widespread movement for the elimination of bovine tuberculosis all over the United States. At the present rate it will be only a few years that the untested herds are the exceptions. The only hindrance to the work is the lack of sufficient federal appropriations. Unless the appropriations are increased the work must necessarily be contracted. The friends of the movement are urged to write their senators and representatives informing them of the urgent need for larger appropriations that this work may be carried on without hindrance.

TO EXTEND PROVISIONS OF FARM LOAN ACT.

AMONG the bills introduced just before congress closed its special session, was one by Representative Johnson, of Mississippi, "to encourage the establishment of rural homes through the settlement of World War veterans upon the land" by means of government financed irrigation and drainage projects. Senator McNary has introduced a similar bill in the senate. Congressman Hayden has introduced a bill extending the provisions of the Federal Farm Loan act to government reclamation projects and to apply to lands within all government reclamation projects. The railroad funding bill and soldiers' bonus were left over until the next session.

MICHIGAN MAN HEADS SOIL ASSOCIATION.

MR. M. M. McCool, head of the soils department at M. A. C., was signally honored by being chosen vice-president of the American Association of Soil Survey Workers at its second annual meeting at M. A. C. on November 18-19.

Nearly fifty of the best soils experts in the United States and Canada were present for the two-day session, most of them being either heads of college departments or in charge of soil surveys in their respective states.

The theme of the discussions was

the correlation of soil survey work in the various states in such a way as to bring it to a uniform basis under the supervision of the United States Department of Agriculture. Dr. McCool himself had a place on the program, taking up the part played by laboratory work in soil surveys.

Among the distinguished visitors were C. F. Marbut, chief of the bureau of soil survey, United States Department of Agriculture, Washington, D. C.; H. Hawkins, of Quebec, in charge of the cooperative soil survey between the dominion government of Canada and the several provinces; Roy Hansen, professor of soils at Saskatchewan; C. B. Clevenger, in soils work at Winnipeg; Dr. Harcourt, from Guelph, Ont.; Prof. M. F. Miller, of the University of Missouri, retiring president; and W. J. Geib, of Wisconsin, secretary-treasurer.

In connection with the conference, Mr. Geib described the work as carried on in Wisconsin, where two-thirds of the state is already classified. The survey has been going forward for ten years at a cost of approximately twenty thousand dollars a year, of which half is paid by the state and the other half by the federal department. The state funds are appropriated in the name of the geological survey to avoid red tape, but are then turned over to

the agricultural division of the university. Mr. Geib expressed it as his opinion that the agricultural college is the only agency capable of conducting such a survey, inasmuch as it has the only workers trained in soil science.

"Eventually I expect every forty-acre tract in the country to be mapped, with classifications of differences between five and ten-acre areas," declared Mr. Geib.—H.

MILK AND BUTTER TARIFFS UNEQUAL.

MR. W. H. BRONSON, of the New England Milk Producers' Association, pointed out glaring inequalities of the rates carried in the Fordney bill on milk and cream with the rate on butter. He argued that the tariff on milk and cream should be based on the rate on butter. One gallon of four per cent milk would make about four-tenths of a pound of butter. At a ten-cent rate this would carry in regard to its butter-fat value four cents per gallon, while the rate as given in the Fordney bill is only one cent a gallon. The rate asked for on milk is three and a half cents a gallon.

John R. Morley, of Minnesota, representing the cooperative creamery industry, said the importation of Danish and Canadian butter was detrimental

to western farmers. The transportation cost on Danish butter to New York is \$1.00 a hundred pounds, while from St. Paul the rate is \$2.15, giving the Danish farmers an advantage of \$1.15 a hundred pounds in transportation rates over the Middle West. He said the situation in the west was about the same as that in New England. Western Canada is not only shipping large quantities of butter to middle west cities, but many carloads are going to New York City from the Canadian Northwest.

Replying to the question as to why, if the imports are small, it is necessary to have a comparatively large duty on dairy products, Mr. Loomis, secretary of the National Dairy Union, said that the comparatively small shipments of butter reaching New York have large results in the prices paid for American butter everywhere. The New York price is controlling in all markets. Every price fluctuation in New York is felt directly and definitely back to the checks the farmer gets for his milk or cream from which the butter was made. A single cargo of Danish butter reaching New York last year in July depressed the market from fifty-nine cents to fifty-five cents.

WAR FINANCE CORPORATION LOANS.

U. S. War Finance Corporation has approved loans to agricultural interests aggregating \$125,736,827. Of this amount the corporation announces that \$30,572,300 has been paid to farmers and live stock owners, on approved loans. It also reports that \$3,362,500 has been loaned to cooperative marketing societies without bank indorsement, and \$2,275,576 to live stock companies, without bank indorsement.

Advances totaling \$4,150,000 have recently been made on sugar beets in Utah and Idaho. The grand total for the work ending November 19, 1921, was \$14,339,726.

DAIRY COSTS.

HEARINGS on the dairy schedules before the Senate Finance Committee which has been considering the permanent tariff bill, have brought out many interesting facts in regard to the dairy industry.

The New England milk producers were unanimously of the opinion that an adequate protective tariff was the only thing that would have their industry from ruin, and prevent a further decline in eastern agriculture. Mr. George H. Putnam, representing the New Hampshire Farm Bureau Federation, said that careful investigations made by the New Hampshire State College during the year ending March 21, 1921, showed that it costs \$3.87 per one hundred pounds to produce milk in New Hampshire, and the market price for milk shipped to Boston during the same period was \$3.25, a loss of sixty-two cents on every one hundred pounds. The cows in the one hundred herds in which records were kept produced an average of 6,387 pounds of milk, which is higher than the average for the state.

Mr. Putnam testified that he had five men working for him and every one of them received a larger return for his labor than he received. This, he said, was one of the reasons why the number of farms in New England had declined seventeen per cent from 1909 to 1920, and in New Hampshire the decline had been twenty-four per cent.



Wednesday, November 23.

A BLIZZARD in Montana breaks all records for snow in November for the past twenty-five years.—The Detroit United Railway and the Municipal Ownership lines agree to the use of Woodward avenue and Fort street tracks together.—At the Peace Conference, Japan is holding for a ten per cent larger navy than was proposed by Secretary of States Hughes.—Roy Stofflet, a World War veteran, has a bullet removed from his brain. He attempted suicide in a fit of despondency.—The Detroit Health Department finds eleven retail grocery stores without fresh eggs, although the prices and labels indicated they were such.

Thursday, November 24.

THE new centralized state traffic department, established May 1, has already saved the state more than \$21,000.—In the Peace Conference China is demanding freedom from exploiting by other countries. The United States is backing her up in this demand.—Over 200,000 turkeys have been killed in four West Virginia counties for Thanksgiving use.—French Premier Briand urges America to keep an army on the Rhine.—A Mrs. Quinn, of New York, gets a divorce from her husband because he threw eggs in her face.

Friday, November 25.

MRS. James J. Hill, wife of the famous railroad magnate, dies at St. Paul at the age of seventy-five.—The Michigan State Telephone Company is negotiating for the Valley Home Telephone Company operating in the Saginaw district.—Nine lost their lives in Irish riots at Belfast.—General Pershing was adopted by the Sioux Indian tribe at the Rosebud reservation in Nebraska.—Henry Ford and Thomas A. Edison will visit Muscle Shoals to plan to build peace im-

plements from scrap war material.—A measure before the German Reichstag will make "trade spying" in Germany "economic high treason."

Saturday, November 26.

SEVEN thousand Russian refugees have been authorized to enter Bulgaria. That country now has more than 25,000 refugees.—Western Union Company announced that money wired to Germany will be paid in American money.—Camp Custer is nearly all dismantled. About \$8,000,000 worth of stores will be auctioned off soon.—Students from twenty-one colleges are attending the International Live Stock Show at Chicago.—A temporary injunction restrains the Chicago surface car lines and putting into effect the five-cent fares ordered by the Illinois Utilities Commission.

Sunday, November 27.

SEVERAL large Canadian banks announced that they intend to replace girl employes with men.—Former Detroit newsboys will sell papers on the streets to raise money for the poor. Many of them are now prominent men in Detroit affairs.—Secret service men are guarding the American as well as the foreign delegates to the Peace Conference.—English banking firms are willing to extend credit to German manufacturers.

Monday, November 28.

FIRE fighting apparatus from Atlanta, Macon and Columbus is assisting in fighting a large fire at Augusta, Ga.—The United States destroyer Williamson arrived at Mersina, Asia Minor, to protect American interests.—The Argentine government is suppressing brigands operating in the Argentine state of Santa Cruz to the danger of American lives and property.—Official announcement is made in New York that a nation-wide party will be formed to politically combat rum.

War Explosives on Michigan Farms

By A. J. McAdams, Ass't Land Clearing Specialist of M. A. C.

A NEW war is raging in Michigan at the present time. Farmers of Michigan are up in arms against the stump-infested areas of this state with "General Picric Acid" leading the attacking forces. Last year war was declared on the stumps with T. N. T.

Picric acid is a high explosive which was manufactured for war purposes. It is a lemon yellow crystalline powder in its raw state. This powder has been partially dried and put into cartridge form for handling in land clearing work. There is no nitro-glycerin

picric acid weight from six to six and a half ounces, and therefore contain approximately as much effective explosive energy as an eight-ounce stick of dynamite. This enables the picric acid to be used stick for stick compared with dynamite. Picric acid is much more shattering than the low-grade dynamite, and is therefore not as good a material to use. It is valuable only because we get it at a much lower price.

Picric Acid Not Poisonous to Use.

Contact with raw picric acid when moisture is present causes yellow stains on the skin. These stains disappear in a few days and do not apparently have any bad effects. Wearing tight leather gloves will largely prevent discoloring of the hands. This smoke and gas from the picric acid explosion contain the same poisonous substances as dynamite but these are largely avoided in the field so no headaches occur. In using picric acid, the very bitter taste of the material will be noticed. Small quantities of this material that may get into the mouth will not have any injurious effects.

Burn the Box and Packing Material.

After using the picric acid, burn up box, wrapping paper and any sawdust which was contained in the box of explosive. These should be burned in the open air and not in stoves in the house. They should not be used for kindling. The explosive or packing material should not be left where live stock can get at it.

This picric acid was not made for stump removal, but as it is of no use

dynamite. The price you pay covers only the cost of cartridging, freight, and distribution. The material should not be stored for future use but should be used up as soon as convenient.

BAKERS OF STATE URGED TO USE DOMESTIC FLOUR.

THE Michigan Millers' Association has again shown its progressive policies, in the promotion of universal use by bakers of Michigan-made flour from Michigan wheat, by placing at the disposal of state institutions the services of a specialist in the business of baking bread. It will be the sole duty of this specialist to teach bakers at the various state institutions how to make good bread from home-milled flour, and to make bread of high quality at a lower cost than bread of the same quality can be made from foreign grown spring wheat flour.

This service is being rendered under an agreement whereby the state officials instructed all its institutions to use Michigan grown and milled flour while the test campaign is in progress. If it is proven that good bread can be made as cheaply or cheaper from Michigan flour as from spring wheat flour, the state administrative board will instruct all institutions under its control to buy only the domestic product.

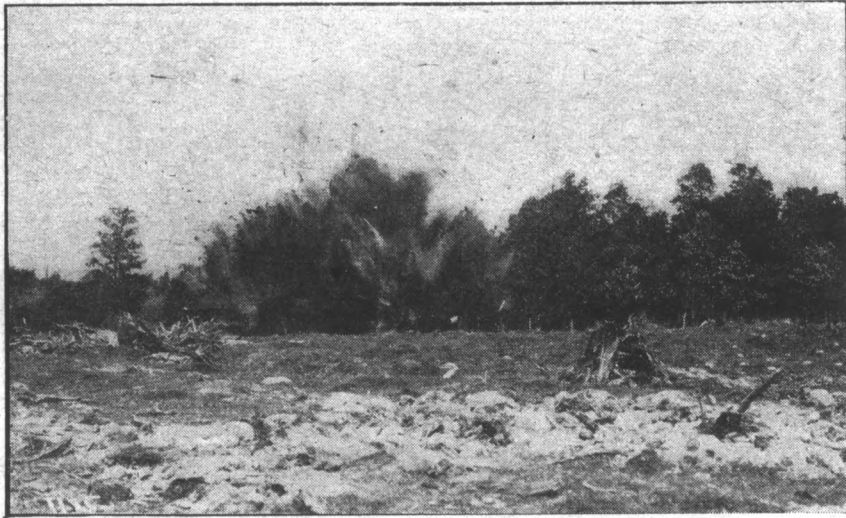
It is estimated that in a year a minimum of from 20,000 to 40,000 barrels will be consumed by the institutions. At Ionia State Hospital, for instance, where tests were conducted to determine the bread-making qualities of the Michigan flour, 1,500 barrels are used annually.

Claim Michigan Flour Cheapest.

According to figures presented by a committee of the millers' association, bread of high quality can be made from Michigan flour at a cost of 2.42 cents a pound, as compared with 2.53 when made from spring wheat flour. The food value of Michigan-made flour bread, the committee report declares, is as high as that of the product of spring wheat flour.

This is in line with a recently adopted policy of the administrative board to have the state purchasing department buy Michigan-grown products and manufactured goods whenever possible. The request of our wheat growers and millers that Michigan wheat flour be used exclusively was a novel one, because it had always been considered necessary to use spring wheat flour, but the authorized tryouts proved the fallacy of this practice.

When different classes of sheep are kept on the farm it will be found advantageous to separate them for winter feeding and care. Unless this is done some members of the flock will get more than their share of feed, while the weaker animals will get less.



Explosives Make Short Work of Stumps when Properly Handled.

leading the attacking forces, but this explosive has been entirely utilized by the farmers. Up to and including last year nearly 700,000 pounds of T. N. T. was distributed to the farmers of Michigan for use in land clearing. The amount of land cleared with this war salvage explosive was astonishing and added thousands of dollars to the value of the cut-over region of this state. Now we have another war salvage explosive for land clearing purposes in the form of picric acid.

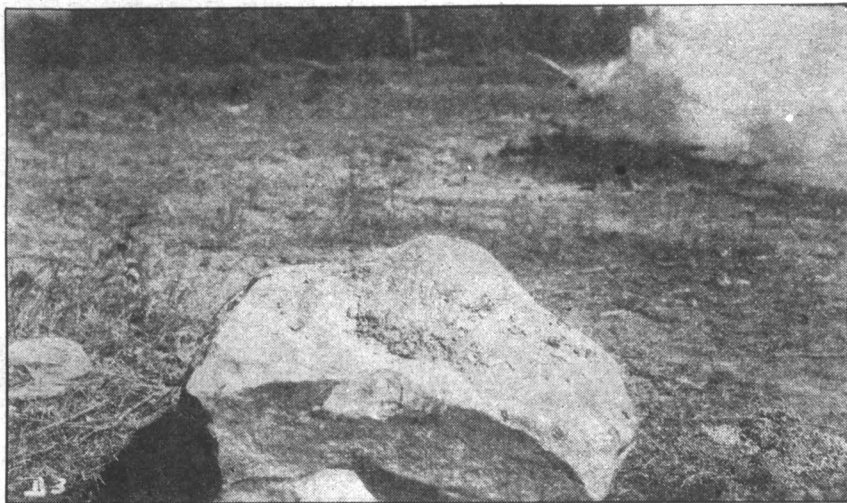
When the world war terminated the United States government had about 12,500,000 pounds of picric acid stored in its magazines at Fort Wingate, New Mexico, and Sparta, Wisconsin. Following investigations for clearing land with picric acid conducted cooperatively by the Bureau of Public Roads, Bureau of Mines and the University of Wisconsin, this material was turned over to the Department of Agriculture to be distributed to the several states for land clearing purposes. Allotments to the different states was based upon the amount of cut-over land within its borders. Georgia with a total of nearly 20,000,000 acres of cut-over land receives about 1,000,000 pounds of picric acid. Minnesota receives 744,000 pounds, Wisconsin 696,000 pounds and the state of Michigan 624,000 pounds. At present this material is being partially dried and cartridged at Sparta, Wisconsin, and is being delivered to the several counties in Michigan.

The Michigan allotment was distributed under the direction of the Agricultural Engineering and Extension Divisions of the Michigan Agricultural College. L. F. Livingston, land clearing specialist, was in direct charge of the work. By working through the county agents and County Farm Bureaus, twenty-seven carloads of picric acid were placed in Michigan. The government made a ruling that picric acid could be delivered only in carload lots and for this reason several counties having only a few hundred pounds in orders could not be supplied. In some cases two or three counties combined their orders so that they might receive the explosive. To date all the picric acid allotted to the state of Michigan has been taken and Mr. Livingston has been forced to return several county orders and individual orders which he was unable to fill. Approximately one million pounds of this explosive could have been disposed of in this state. The use of picric acid in land clearing is summarized below:

in it and it is not described in terms of per cent. It is plain picric acid in cartridges.

Picric Acid Requires No. 8 Cap.

Picric acid is less sensitive than ordinary dynamites. In order to make it explode completely, a larger blasting cap is necessary. For this purpose the No. 8 blasting cap, either common or electric, is used. The ordinary size of cap used with dynamite is No. 6.



Much Energy is Required to Remove these Boulders in the Usual Way.

On account of the insensitiveness of picric acid, it is also necessary that special care be taken to place the cap lengthwise of the cartridge with the "business end" of the cap pointing toward the main part of the charge.

Charges of picric acid should be well bunched. A long string of cartridges in a small hole is undesirable. Dynamites should not be used as primers as long contact between picric acid and dynamite might cause dangerous compound.

Picric Acid Does Not Freeze.

Picric acid may be stored over winter without any detrimental effects. There are no liquid ingredients in picric acid, hence it does not freeze and requires no thawing. Professor John Swenehart, University of Wisconsin, states that picric acid will keep much the same as common salt. The actual change in temperature will not affect its explosive property. If stored in a dry place and protected from the weather, farmers should have very little trouble with its use in the spring.

Picric Acid Stronger than Dynamite.

Picric acid is about one-third stronger than ordinary dynamite used for land clearing work. The cartridges of

for military purposes, it has been turned over by congress for peace time use in land clearing. You are getting it at a low price as a result of the service of your college of agriculture and United States Department of Agriculture. When the material now available is used up, no further allotments can be secured as it actually costs much more to manufacture than



What Picric Acid Did to a Boulder.

Hurrah for Good Old Michigan

Beats All Competitors at the International Grain and Hay Show—Established Herself as the Greatest Producer of High Class Grains—Takes 25 of the 30 Prizes Offered in World Competition on Rye.

HATS off to Rosen Rye! Hurrah for Michigan farmers! Bravo for the Michigan Crop Improvement Association! Rah for the Michigan Agricultural College! Let's have a big bonfire and jubilee!"

Yes, patient reader, you have a perfect right to ask, "Why all the pep?" Well, just because we Michiganders are happy and proud of our state, our farmers and our agricultural college.

Another Clean Sweep.

Rosen Rye originated by the Michigan Agricultural College, grown by Michigan farmers and registered by the Michigan Crop Improvement Association, once more demonstrated its superior quality at the International Grain & Hay Show at Chicago.

Thirty prizes, amounting to \$520, were offered by the Chicago Board of Trade for the thirty best peck samples of rye grown in the world. Every single prize was won by Rosen Rye with great credit to the variety and the college which produced it. Twenty-five of the thirty prizes were won by Michigan farmers—hence the hurrahs for our farmers and the Crop Improvement Association which came through the exceptionally stiff competition with colors flying.

A Hard Fight.

At the 1920 show Rosen Rye won twenty-nine of the possible thirty prizes, twenty-eight of the winning samples coming from Michigan. At the close of last year's show, representatives of several states expressed their firm determination "to get Michigan in 1920." In fact, during the past summer and fall, expressions have come from several sources to the effect that Michigan had better look out this year.

The many fine samples entered this year from Wisconsin, Colorado, Minnesota, North Dakota, Montana, Iowa, Illinois, Indiana and other states show that all this was said in good faith,

but they did not fully reckon with the strength of the Michigan punch.

Michigan entries at the 1921 show were far superior to those of last year—in fact, had they not been, our friendly rivals would undoubtedly have made good their boast to beat Michigan. Samples of rye weighing sixty pounds are seldom seen, but Michigan had to beat, this year, numerous samples which weighed from fifty-seven to sixty pounds. However, the quality of Rosen was too high for her competitors.

One member of the judging committee made this remark: "I was greatly surprised last year when Michigan made such a clean-up in the rye class. I did not believe it possible for any state to make such a record. Now they come back and do it again. They won on their own merit and the honor and glory is Michigan's." A prominent member of the Chicago Board of Trade stated: "I never dreamed of such a thing, it is truly a wonderful two-year's record—one which future generations may long strive to equal."

If the following list of winners be studied, one will notice that Michigan won twenty-two of the first twenty-three prizes—missing out on the ninth place which was won by John Howell, of Colorado, who smilingly said, "Michigan deserves the credit of my winning, as I got my seed from the Michigan Crop Improvement Association." The writer asked Mr. Howell how Rosen yielded in Colorado. To my surprise he replied, "From thirty-five to forty bushels per acre under irrigation."

The Rye Winners.

The names of most of the rye winners are well known, as they have

closely associated with crop improvement work in Michigan. Their rye stood the acid test in the strongest and keenest competition ever witnessed in this class at the International Grain & Hay Show.

Michigan prize winners in the rye class are as follows:

First, Irving Beek, South Manitou Island; 2nd, George and Lewis Hutzler, South Manitou Island; 3rd, A. W. Jewett, Jr., Mason; 4th, L. H. Laylin, Mason; 5th, F. H. Rukert, McMillan; 6th, George Shady, McMillan; 7th, Lewis Hess, Ceresco; 8th, Garfield Farley, Albion; 10th, Gifford Patch, Clarksdale; 11th, George Starr, Grass Lake; 12th, E. J. Fenn & Son, Parma; 13th, Richard Jewett, Mason; 14th, Lewis Bros., Jerome; 15th, Jacob Tag-sold, Rega; 16th, Leo Wooden, Hanover; 17th, Clarke Haire, West Branch; 18th, R. F. Jewett, Mason; 19th, A. M. Berridge, Greenville; 20th, W. H. Warner, Concord; 21st, Minard Farley, Albion; 22nd, Ralph Arbogast, Union City; 23rd, Lynn Jewell, Leslie; 27th, A. W. Torrant, Parma; 28th, Eli Lindsey, Doster; 29th, Raymond & Ivoltz, Grass Lake.

An Excellent Showing in Wheat.

Give another set of hurrahs and bravos for Red Rock Wheat. This variety was also originated by the Michigan Agricultural College and is produced and registered by the Michigan Crop Improvement Association. Winning five of the first six prizes, Michigan farmers' Red Rock once more demonstrated its superior quality. The first ten prizes were won by Red Rock—however, five samples were produced in states other than Michigan.

Michigan winners in the Soft Red winter wheat class were: First, A. W.

Jewett, Jr., Mason; 2nd, C. D. Finkbeiner, Clinton; 3rd, Richard Jewett, Mason; 5th, L. H. Laylen, Mason; 6th, R. F. Jewett, Mason; 11th, Wm. Ottney, Jackson; 13th, Lynn Jewell, Leslie; 18th, Wm. McMannus, Sand Lake; 20th, W. T. Bandeen, Mt. Pleasant; 22nd, E. P. Kinney, East Lansing.

In the soft wheat winter class Michigan won the first three prizes of the five offered—A. W. Jewett and L. H. Laylin, of Mason, taking first and third places respectively and Lynn Jewell, Leslie, winning second place.

Credit Due to M. A. C. Students.

Of course, the great bulk of the credit of this wonderful record goes to the farmers who produced the grain; however, we must not forget those twenty to thirty M. A. C. students who, working at odd hours and on holidays for a nominal wage, carefully prepared the majority of the winning samples. These students became very much interested in Michigan's possibilities at the show and under the direction of the Farm Crops Department played a most important part in once more putting Michigan notably before the world.

Other Awards Taken by Michigan.

In addition to the numerous prizes mentioned above, entries of oats from this state were awarded fifth, sixth, tenth, eleventh and nineteenth places. In the two-rowed barley class, a Michigan sample secured eighth place. In field peas she secured third position. High awards were also credited to this state in the hay show—first, second, fourth, ninth, tenth and fourteenth awards going to Michigan farmers on timothy hay, while second, third, sixth, ninth and thirteenth awards were given on clover hay. The corn has not been judged as this article is being closed and a report on that class, as well as of live stock winnings, will be made in these columns next week.



ACTIVITIES OF FARM BUREAUS

Latest News From Local, State and National Organizations

ANNUAL MEETING OF AMERICAN FARM BUREAU FEDERATION.

JAMES R. HOWARD, Iowa farmer, again heads the American Farm Bureau Federation as its president. He was unanimously re-elected November 21 at Atlanta, Georgia, at the third annual meeting of the American Farm Bureau Federation by delegates representing 1,500,000 farm bureau members in the United States.

O. E. Bradfute, an Ohio farmer, was elected vice-president of the federation, and the following men were elected to the federation's executive committee: Gray Silver, of West Virginia; John T. Orr, of Texas; Howard E. Leonard, of Illinois; W. H. Walker, of California; C. S. Brown, of Arizona, and John L. Burton, of Utah.

J. V. Coverdale, of Iowa, is secretary of the American Farm Bureau Federation, and Charles T. Gunnells, of Illinois, is treasurer and assistant secretary.

Mr. Howard in his annual address to the convention delegates reviewed the activities of the American Farm Bureau Federation during the past

year, pointing out accomplishments and programs under way along the lines of better transportation facilities and rates for farmer shippers, lower taxes and a more just distribution of the same, efforts for constructive rural legislation, and the accomplishments of the federation in the realm of co-operative marketing.

Mr. Howard emphasized the work the United States Grain Growers, Inc., are doing for a nation-wide co-operative handling of grain. The organization now has a membership of 25,000 and has contracts for marketing 50,000,000 bushels of grain, according to Mr. Howard. He added that the proposed plan for co-operative marketing of live stock, as developed by the Farmers' Marketing Committee of Fifteen, will be in effect by January 1.

Two other American Farm Bureau Federation marketing committees now at work are the Farmers' National Dairy Committee of Eleven, which has held its first meeting. Milo D. Campbell, of Coldwater, Michigan, is a member of that committee. The second is the Farmers' National Fruit Market-

ing Committee of Twenty-one, of which James Nicol, of South Haven, Michigan, president of the Michigan State Farm Bureau, is a member.

At the first meeting of the Committee of Twenty-one, held at Atlanta on November 19, Mr. Nicol was made permanent chairman of that committee. The committee is charged with investigating the fruit marketing industry from a co-operative marketing standpoint. It has gone to work by appointing sub-committees to investigate the transportation, legislative, financial, advertising and publicity phases of fruit marketing. A sub-committee is also charged with preparing a report on the standardization of fruit packages.

FARM WOMEN AT ATLANTA.

THE toilers of the farm who start their routine labor in the wee hours of the morning, work through the day and until the oil is well burned from the lamps at night, were well represented at the annual meeting of the American Farm Bureau Federation convention at Atlanta, Ga., last week. The women folks made a plea for the

more general introduction of running water, bathtubs, and other conveniences in the farm homes of the country. Increased consideration of the work devolving upon the fair sex was urged to the end that a stronger home life may be developed and rural children may receive the needed amount of attention, which is physically impossible for many farm women to give under present methods of farm management.

The appointment of the woman's committee by President Howard a few weeks ago has given new hope to the "better half" of this great agrarian movement. The time is too short to show actual accomplishment, but some of the very best farm women leaders of the country are working hard to develop a practical program looking toward a more ideal farm life. That the 1921 convention will give much momentum to this program is certain.

According to H. G. Wells' new "Outline of History," the people of Crete had water pipes, bathrooms, and like conveniences 2500 B. C. Many American farms are still in the pre-Cretan period of domestic progress.

ABOUT THE FARM

Farm Practices and Experiences Tersely Told

SUCCESSFUL POTATO PRODUCTION.

LAST year I plowed less than three acres of clover sod in the fall and in the spring covered it with barnyard manure, plowed it again and then disked and work it up good. I plowed my potatoes in. Then I dragged it down smooth and cultivated twice. I harvested eleven hundred bushels of potatoes. This year I took a piece of pasture land that had never been broken up. I plowed it last fall and did the same as last year. I had four acres and harvested fifteen hundred and sixty bushels. The ground was a little rolling. For bugs I sifted arsenate of lead clear on them. One man in this county had eleven acres and harvested two hundred bushels.—F. L. C.

CLOVER IN WHEAT.

ONE spring I had a ten-acre field of rather light soil that was sown to wheat the fall before. I was anxious to get a good stand of clover on it. I sowed Mammoth clover seed in April at the rate of four quarts per acre, using a steel peg-tooth harrow. I harrowed the field of wheat, covering the clover seed. Neighbors said that I had ruined my wheat. Soon neighbors said that it was the best piece of wheat in the neighborhood. The wheat made a good yield. The next summer I plowed under clover that was four feet long and results are still seen on crops on that field.—R. P. B.

THE FARM DUMPING PLACE.

ALTOGETHER too many farmers are using their immediate surroundings around the house and barn as a graveyard for their old machinery, wagons, etc., gathered there for years, together with other useless rubbish, making an otherwise naturally good-looking place forlorn looking to themselves as well as to passersby. If one is bound to have such a dumping ground, why not have it in an out-of-the-way place and keep the yard clean and attractive? This can also be applied to the right-of-way along the road. Keep weeds and rubbish away from the right-of-way and make it look clean and nice. One can always tell what kind of a man runs the farm when he sees the barnyard and roadside, and never make a mistake in the estimate.—F. J. J.

CONVERTING A FRAME HOUSE INTO A CEMENT HOUSE.

AFRAME house that needs sheeting or weather boards can be made a handsome house by using the old weather boards with a few bunches of lath so as to leave an air chamber of two inches or more from plaster. Nail laths on each side of the studdings, saw the old boards that come off the house so as to fit in between studdings and nail them to laths. Then drive nails about four or five inches apart on both sides of the studdings and on face of studdings drive the nails in just so the outer boards are as even as possible with the doors, window-frames and corner boards. If the studdings are hard wood, use small nails, if soft wood, use larger nails.

When putting boards on, use ten-penny nails driven through small strips of laths at about every other studding and eight-penny nails at the frames or corner boards. When the boards are on, as far as a few batch-

es of concrete will go, get a coal bucket to pour the concrete between the studdings. Then get a hammer and tap boards so as to get the cement together.

After several days remove all the boards except the top one, and go on up. When removing boards, knock strips off. Pull the nails from boards, as you will have to use small strips again after the cement is all set. Use cement dope whitewash. This will give a concrete wall of from one and one-half inches to two inches thick and you will have something cheaper and better than lumber. With all the nails driven in the studdings, it would be hard for the concrete to get away from the studdings, as all would be solid concrete. I have built my house this way and am well pleased with the improvement.—E. L.

SWEET CLOVER—SHIPPING STOCK.

I EXPERIMENTED on sweet clover, intending to plow this fall for green manure. I have always been told that the stock would not eat it, but I find that my milch cows eat it and seem to like it and that the flow of milk doubled. My other stock also eat it.

I also had experience in shipping live stock to Buffalo markets. I shipped three good heavy cows, five good two-year-old steers and two good veals both weighing three hundred pounds, and to my surprise I received only \$206, where I could easily have sold them at my home market for \$400. One of my neighbors shipped a very big and good cow and received only \$4.00 for it. I wonder where the balance went to. Another neighbor shipped a two-year-old heifer and received \$9.00.—W. J. D.

GOOD TOOLS ARE PROFITABLE.

IT may be desirable to keep the old tool working just as long as possible, but it is not necessarily always the most profitable thing to do. It must be remembered that machines are continually being improved and the time may come before the machine is worn out when it should be discarded because of obsolescence.

Obsolescence is a big word, but it means a lot. A machine is obsolete when the money one loses through its use would pay for a new machine of improved type, which would do the work faster, better, more economically.

There is certainly such a thing as keeping a machine too long. The self-rake reaper had to give way to the modern binder. The modern corn planter displaced the old hand operated type. The process of displacement is continually going on.

The modern farmer requires the best and most up-to-date tools and equipment. He must of necessity know the cost of production in order to know whether his business is profitable or not. The use of labor-saving equipment is the best insurance of profits. The man with the hoe, the scythe and the flail has passed, and the wheels of progress carry the farmer of today on a good road to sure profit and pleasure in his business.—F.

IN THE SHEEP PENS.

In feeding silage to sheep care should be taken not to give the animals any that is spoiled. Sheep are peculiarly susceptible to injury from feeds which form gas.

The breeding ewes need exercise in winter. The health and vigor desired cannot be obtained by housing the animals too closely indoors.—W.

*"I know you'll want
THIS ONE
these cold days!"*



Four Buckle Arctic—To be worn over leather shoes. Easy to pull on or take off—a perfect protection for the feet during the coldest, wettest weather.



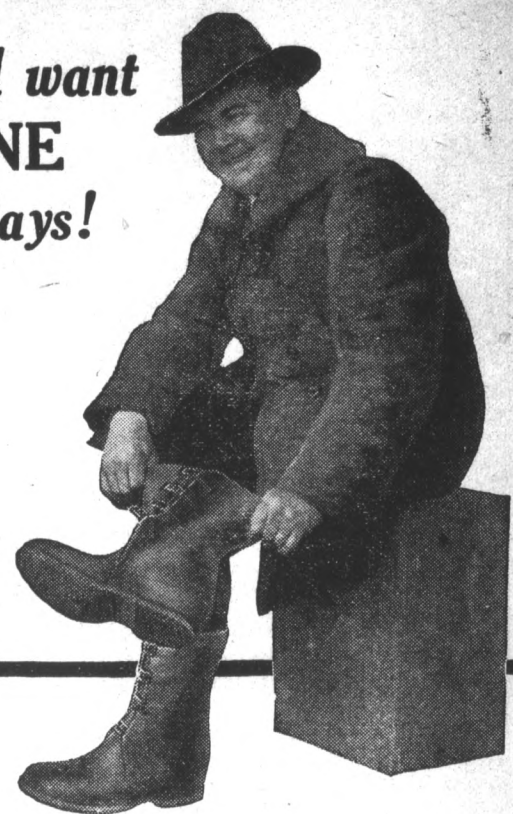
Short Root—An exceptional boot for men who do a great deal of outdoor work. It is strong, light, springy and comfortable—water-tight and durable.



Six Buckle Arctic—To be worn over leather shoes. Fleece lined, absolutely weather-proof, warm, light and comfortable. For wear where snow and slush are deep.



Look for this green oval when you want satisfaction.



THESE Snag-Proof arctics are real life-savers when the snow and slush are on the ground. When you go out, it takes only a few seconds to pull them on over your leather shoes, and they keep your feet dry and warm in the meanest kind of weather. When you come back, wash off the mud and slip out of them. They'll save money by making your leather shoes wear twice as long—and they protect your health. You know wet, cold feet are the most dangerous foes you could have. Pneumonia, influenza, rheumatism, most often come from wet or cold feet.

"Then there are Snag-Proof rubber shoes and boots that take the place of leather entirely. They are warmer, springier, last longer in wet weather, and cost less. Our special steam cured in vacuum process makes all Snag-Proof products exceptionally long wearing, water-and-weather-proof.

"I can show you just exactly the right kind of rubber shoe, arctic or boot that will save you money and give you the greatest foot comfort and protection this year. Come in and see them all.

(Signed) Your Snag-Proof Dealer"

Look up the Snag-Proof dealer in your town. He's a good fellow to know, for he sells on a customer-satisfied-first policy. He could make a larger profit on one sale from other kinds of rubber footwear, but he knows that it pays him to sell Snag-Proof in the long run—just as it pays you to buy Snag-Proof. That's the way Snag-Proof Rubber Footwear has been sold for the last fifty years. And Snag-Proof customers always buy Snag-Proof, because they always get genuine satisfaction from every purchase. Remember the name—Snag-Proof.

LAMBERTVILLE RUBBER COMPANY
Lambertville, N. J.

"SNAG-PROOF"
Rubber Footwear

Making Hide Values Grow Larger

By George J. Thiessen

WHEN a farmer sells a steer hide and takes the money to buy even an ordinary pair of shoes, he is inclined to believe that the raw material bears no relation whatever to the finished product. You cannot blame him either, for it is mighty hard to understand why so much untanned leather, so to speak, is worth so little and the shoes so much. Right there is one solution, or a suggestion, on how to make hide values larger. Get the skins tanned for home consumption, so far as possible, as the leather can be used for a hundred and one purposes. Where the family is large, shoe bills are quite an item and if they can be repaired at home with leather costing so little, a great saving is possible. Then again, neighbors will generally be glad to buy, provided the price is lower than that asked by dealers. While, of course, it may not be possible to utilize all the hides on the farm by the method explained, some can be. And remember, too, that the leather never spoils, and demands no special attention to keep it year after year. This eliminates the danger of an over-supply, at least to a certain extent.

Generally speaking, farmers have never been able to obtain maximum value for their hides, even when prices were high. In the first place, few knew exactly how to handle them. The percentage fit only for glue was too large. It seems that country buyers especially who could have imparted this information on proper methods were the very ones who withheld the knowledge. The reason is obvious: With owners knowing so little about quality, it was possible to magnify the defects and in this way pay less than otherwise would have been the case.

We all know that holes ought to be avoided in skinning. Scoring—that is, cutting nearly through, is practically as bad since such spots break in tanning. While a hide with these blemishes can be made into a robe or coat so the defects will not show, it never can be sold to advantage regardless of

what the market is. And even for manufacturing purposes, the holes and scored spots add nothing to value. Therefore, the first thing for the hide owner to use is greater care with the knife. And while on this subject let me add that it is not a good policy to attempt to trim the skins at home either. Let this work be done by experts in such a manner that no damage is done.

When a horse or a cow dies in the field, many times it has to be taken to a more convenient place before the hide can be removed. Unthinkingly, the owner hitches a team to the carcass and drags it to where wanted. The result of this, especially if the ground is hard and frozen, is the hair rubbed off. This lessens the value, as can easily be understood.

The best way to move a carcass before skinning is to employ a low sled or stoneboat. The work is easy and no damage is done.

While the skinning may be properly completed—no holes or scoring—and the carcass, if moved, not injure the pelt, other precautions are still necessary. In fact, it might be said that farmers suffer greater losses through faulty handling than in any other way. When the hide is taken off, spread it

out flat and salt thoroughly. Let lay for ten or twelve hours so the liquid is absorbed. Then salt once more and use about a peck for the average cow or horse. Do not disturb the skin until after two or three days, giving it plenty of time to cure. In cold weather hides are easier to care for than when it is warm, but if plenty of salt is employed—you can't use too much—no danger is run.

When skins are bundled before they are perfectly cured, the salt is liable to come off in spots. These taint, causing the hair to slip. This, really, is a condition of rottenness and while it is sometimes possible to save the hides if the tanneries get them in time, often it is not and the skins go for the making of glue. Naturally, the price paid is very low.

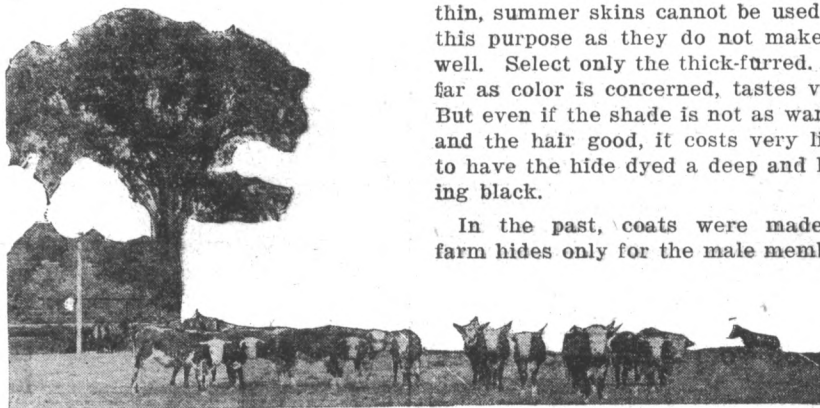
The growing use of the automobile all, or nearly all, the year round in many communities, has given an outlet for the profitable employment of many farm hides. Coats and robes are necessary and since they can be made of skins worth so little and wear from fifteen to twenty years, are practically wind, rain and moth proof, the per season cost is practically nothing. Outfitting the entire family, so to speak, pays big dividends in comfort during the cold winter months. However, thin, summer skins cannot be used for this purpose as they do not make up well. Select only the thick-furred. So far as color is concerned, tastes vary. But even if the shade is not as wanted and the hair good, it costs very little to have the hide dyed a deep and lasting black.

In the past, coats were made of farm hides only for the male members

of the family. It has been found, however, that the women wanted protection from the cold as well as the men. By working on this theory and with advanced methods of manufacture, it is now possible to outfit mother, wife and sister with garments which are not only light and pliable, but equally as handsome as the fine fur coats seen on the city streets. Best of all, the tanners have put service into the garments and kept the cost so low that almost anyone can afford them. The trimmings of such coats are generally raccoon, muskrat or some other fur that can be taken right on the farm. But where collars and cuffs cannot be obtained, the little fur needed can be purchased at prices which are not prohibitive.

The garments for women are generally made from horse hides. Coats for men usually are from cow hides. The best robes are horse, although many use cow hides for this purpose as well. And while on this subject let me add that when horse hides are used for robes it is best not to have them tanned with the mane on. Nothing is added to the appearance by so doing and the long hair breaks off, giving a shaggy appearance. Last, but not least, the mane often catches in the machinery and endangers the workmen.

The low prices now being paid for farm produce of all kinds, might make the manufacture of a robe or coat out of the question, even though the cost is small. Tanneries have realized this and, as a whole, tried to cooperate. They will, in most cases, be glad to hold a hide to be made up until wanted or until payment can be made without much sacrifice. This will give those who want—and need—the garments, opportunity to obtain them under the most favorable conditions; to utilize low-priced skins in the most profitable manner. Later, when hide values go up a greater investment is necessary. This saving in the farmer's pocket where it belongs, is as good as anywhere else.



OUR SERVICE DEPARTMENT

LIABILITY OF HUSBANDS FOR WIFE'S DEBTS.

A single woman in West Virginia goes in debt for clothes and then comes to Michigan and gets married. Can the man who married this woman be compelled to pay the debts that she made before the marriage.—W. R.

Our supreme court has held that the statute declaring the husband not liable on contracts of the wife relating to her property includes contracts made while sole, thus impliedly abrogating the common law rule that the husband is liable for the ante-nuptial debts of the wife.—J. R. R.

BALANCING A RATION FOR COWS.

Please give me a balanced ration for cows. Have for roughage bran pods and oat straw, with a very little mixed alfalfa and alsike hay. Grains, wheat bran and middlings, buckwheat middlings and corn meal.—C. F. E.

Bean pods, oat straw and mixed alfalfa and alsike hay are all very good sources of roughage and the bean pods and hay are fairly rich in protein, which ought to be taken into consideration in the grain mixture. With the grains you have at hand you can use quite a bit of corn meal to good advantage. Buckwheat middlings are quite rich in protein and help to bal-

ance up the carbohydrates in the corn. Wheat bran is also a splendid grain rich in protein and minerals. Bean pods depend very much upon how ripe the beans were when they were pulled and how well they were cured. Some pods are so weather-beaten that it is a shame to even ask a cow to eat them. Other pods are almost equal to clover hay as a feed. I would suggest that you form a grain ration by mixing wheat bran, buckwheat middlings and corn meal, equal parts, and feed one pound of grain per day for every three pounds of milk produced, if the milk is five per cent milk, or every four pounds of milk produced if the milk runs below four per cent. The cow ought to be fed liberally with roughage yet waste should be avoided.—C. C. L.

FARMING ON SHARES.

A. lives on and owns his farm. He let out the fields to B. last fall. All crops are taken care of and settled for up to date, except eight acres of corn. The corn is dead ripe so the fodder is no good. B. was to cut the corn for both parties. Each was to husk his share. A. has no fodder to feed this winter for his three cows, and his share of the fodder is a total loss. Can A. hold B.'s share of the corn till he pays for A.'s share of the fodder? Can A. keep B. from husking his corn and

take it from the farm until he (B.) settles with A.—J. D.

The answers to most of these questions are given by the terms of the contract. It is not possible from the statement made to say whether it was a contract of employment to be paid for by a share of the produce, or a lease in which the rent is a share of the crops raised. Unless the contract is in writing and gives the safeguards to the land owner to secure proper planting, tilling and harvesting he has little protection—it is all a matter of contract.—J. R. R.

STAG BEEF.

I have a stag, a bull castrated one month ago. Owing to ugliness was allowed to become very thin. Would his beef be desirable if fattened quickly? He is five years old. I am feeding the following: Two parts bran, two parts corn and oats ground with cob, and one part middlings with mixed hay from our old meadow. Is this a good ration for the purpose?—S. M.

There is no reason why this animal ought not to make splendid beef if you now get him fat. It really was not necessary to castrate him, because bulls generally sell at a very good price and the beef is considered good. You have lost money, of course, be-

cause the operation of castration is probably what has caused the bull to become thin but now that he has recovered from the operation and is healthy, if you fatten him up quickly he ought to make choice beef.—C. L.

BUCKWHEAT GROUND FOR CORN.

I would like to ask you if buckwheat ground, planted to corn in the spring will raise good corn? Some of my friends say it will not.—A. E. T.

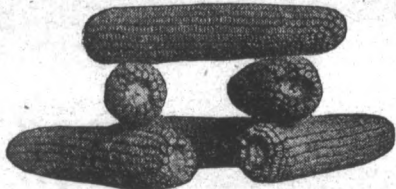
There is no reason why buckwheat ground will not raise good corn, providing it is fertile. That is the great problem. Some people only sow buckwheat on poor ground and poor ground will not raise good corn. Buckwheat will do better on poor ground than corn but if this ground is good, fertile land, there is no reason why it will not raise corn. The fact that it grew buckwheat has nothing to do with the growth of the corn following. If the land is poor then you must supply plant food, either with plenty of stable manure or commercial fertilizer if you want to get a good crop of corn.—C. L.

Burnt autumn leaves send future fertility into thin air. Pile them where they'll decay. Leaf mold is fine for heavy land.

BURNING CORN IN APPROVED FASHION.

REPORTS have come in from various sources that corn is being burned by farmers, who consider it cheaper than coal at \$10 to \$12 a ton. I know of at least one man who is burning his corn under this delusion; he has timber land on his place, some of which would be better utilized as fuel in place of corn. Corn may be cheap now, it certainly seems so to we growers who find it quoted at from twenty-five to thirty cents a bushel, but even if corn went as low as ten cents a bushel I would not consider burning it, except under extreme conditions.

While we raise several thousand bushels of it every year, we do not sell very much of it. Hogs and cattle carry it off to market for us. At thirty cents a bushel for corn we can make beef at five cents and pork considerably less than this, and even if we sold



each of these live stock commodities at cost we would be doing a service to our soil by keeping it productive.

Take even a common dairy cow and turn the corn into milk and butter, along with cheap roughages. We have been selling butter right along at forty cents a pound and the skim-milk has about all gone to the pigs and poultry, making one of the finest feeds on the farm. The corn, along with tankage, bran and middlings, is making fifty-five-cent eggs. Did you ever know the time before when a dozen of eggs would buy two bushels of corn? It is a poor time now to lament the fact that we have such cheap corn, it may be cheaper, but I look for it to be substantially higher before we raise another crop of it.

The big problem just now is how to get the most value from it. We are storing and saving every bit of it so that we can utilize it and get more than market price for it. I cannot bear to throw even one golden ear into the fire to see how it will burn. In the spring when we were putting in our corn we had visions of a bountiful crop in a few months, and dreamed dreams all summer of the big sum of money it would bring when matured. I think of all the energy, of all the thought and planning put into that crop to make it a complete success, and the idea of burning it in a stove or furnace is abhorrent. It looks like too much wasted energy to destroy by fire such a valuable food commodity.

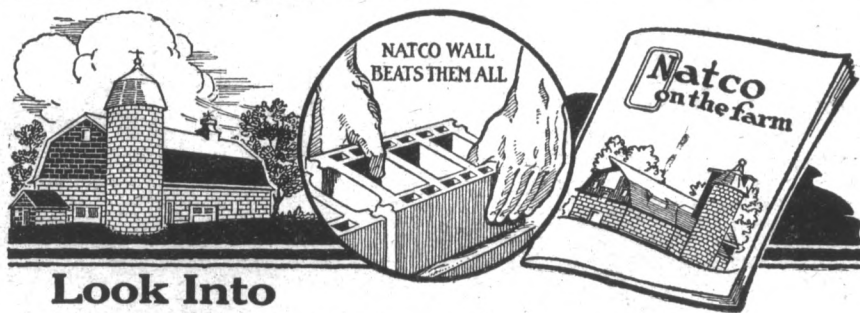
The man who deliberately burns his corn may have many regrets during the time between now and another harvest. No farmer need be surprised to see his corn selling for fifty cents or more on his local market. It may be poor policy to borrow money to hold the corn until the market makes a decided improvement, it might decline still further. But it may be good policy to borrow money to buy live stock to feed the corn to, at least I think it the safest way out and do not hesitate to say so. Feeding live stock however, involves thorough planning and the exercise of good management.

One must first of all have a natural liking for live stock. Good judgment in the care is essential as well as good business judgment in buying and selling. It's a simple matter to lose money in the live stock business, especially for the uninitiated. We have made and lost money at it, but the winnings far overbalance the losses, and corn has been the foundation of all feeds. It is the approved method of "burning" the corn.—J. L. J.



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Our "Natco on the Farm" book—32 pages, over 50 illustrations—brand-new edition—will interest every farmer. It shows how to make farm buildings fire-safe and repair-free. The diagrams showing construction details are of special value to practical builders. Write today for your copy—free.

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Salt is either of hard hail-like crystals or hard solid flakes, that are slow dissolving and uneven in their flavoring qualities—or it is of fine soft, porous flakes that dissolve quickly, penetrate evenly, and flavor uniformly.

Colonial Special Farmers Salt melts instantly like snow because it is the only salt of soft, porous flake texture. It is pure salt, all salt, with all of the moisture removed. That is why it does not cake or lump as ordinary salts do.

Best for cooking, baking, butter making, meat curing, table use and all farm uses.

Put up in 70-lb. bags of lined material which makes excellent toweling.

Colonial Salt

Each tiny speck of Colonial Special Farmers Salt is like a flat, soft, porous flake of snow. Of course it dissolves quickly and completely.



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Chicago, Ill. Buffalo, N. Y. Boston, Mass. Atlanta, Ga.
FOR STOCK SALT—USE COLONIAL BLOCK SALT

Michigan's Fruit Growing Opportunities

By W. P. Hartman

FIGURES are a bit tedious to most folks, yet neither high-sounding phrases nor all-inclusive utterances, tell so convincingly a true situation as statistical data.

We shall refrain as much as possible from the use of figures, but where employed we take as our authority the United States Department of Agriculture and the Bureau of the Census.

In 1919 we exported from the United States, barreled and boxed apples valued at \$14,471,282 and dried apples amounting to \$4,109,828. The quantity of fresh apples exported just about equaled the Michigan commercial crop that year.

Last year the price per bushel for Michigan apples as of December 1, was seventy-seven cents. One other state received two cents less, while the prices in all other states ranged up to as high as \$2.60 a bushel, the average for the United States being \$1.13, or thirty-six cents higher than Michigan.

Michigan is the home of "Fruit with Flavor." There is not another section in the United States that begins to produce apples of the superior quality, flavor, aroma, texture and firmness of our own staple varieties. There are a few contenders among other states for this premiership, but no region has yet attained our leadership in this respect.

By way of contrast, where we lead in quality we lag woefully behind in grading, packing and general merchandising.

Excepting intensive and progressive methods employed in a few restricted fruit growing districts in Michigan, relatively little attention has been given to the essentials absolutely imperative to maximum production, superior quality and of equal importance, business-like sorting, grading, packing, labeling, advertising and merchandising. Few of our fruit growers will want to admit it, but the fact remains that the markets have been literally forced upon them. If the westerner would attempt to market his fruit in like fashion with the Michigan grower many of the prosperous irrigated valleys of the west today would bear a striking resemblance to an abandoned mining camp.

Though we now march in the front rank in fruit production, it is far from being merely visionary, to survey the future—not too far distant—say, lying between the next score years. It has been said that in the "belt" lying between a line drawn from Muskegon to Port Huron and south to the Indiana and Ohio lines a greater industrial expansion has taken place in the past ten years than any other given section of the country. Is there any reason why a normal continued development should not follow? Thus more consumers, larger markets, close at hand. Today the Michigan fruit grower is within a few hours of one-fifth of the population of the United States—and not so very far removed from one-half the total consuming public. Shortly, say in the next ten years, ocean-going vessels will be docking at our thirty-odd deep-water ports dotted around our great shoreline. Included with the cargoes they take aboard will be Michigan fruit—particularly apples for the world markets. Recently English buyers were in our markets, expecting to purchase five thousand carloads of apples for export.

The future of the fruit growing industry in Michigan is decidedly promising—no branch of American agriculture offers more substantial inducements. It is now a highly specialized

pursuit—and will ever increase—as a field only for trained and capable men and women.

"Why are western box apples in evidence, and apparently in demand, in our own Michigan markets?" queried a newspaper reporter a couple of days ago. Because they are advertised, carefully graded and packed, and pleasing to the eye. Our home product, with vastly more inviting aroma and flavor, takes second place for the very want of the things that engender the demand for western fruit.

GROWERS AND CANNERS TO COOPERATE.

FOUNDATION for a more friendly relationship between growers and canners was laid at Grand Rapids during the recent convention of the Michigan Canners' Association when James Nicol, of South Haven, president of the Michigan State Farm Bureau, laid before that body a tentative plan by which to market fruits and vegetables suitable for canning purposes. The canners warmed up to his proposals and met the farmers half way by appointing a special committee to join with the farm bureau in working out the new marketing system.

During the first year but one crop will be used for experimental purposes and then if the system is found to work satisfactorily for both growers and canners, it will be extended to all branches of the industry. The proposals suggest that the farmers agree to furnish a definite tonnage at prices decided weeks in advance of the harvest. Such a plan, it was pointed out, would let the canners know how large a pack to prepare for and at the same time would inform the growers as to how much of their crops could be sold at home.

The canners would be in a position under such an arrangement to buy only such quantities of cans, boxes and other equipment necessary for the size of pack in prospect. This, Mr. Nicol stated, would eliminate much waste and inefficiency now so prevalent under the present marketing system when in normal years they got only such fruit as they contracted, while in seasons of overproduction they were flooded. The producers would benefit by knowing what per cent of their crops would not require packages. In one sense, Mr. Nicol believed the system really was a producer-canner pack.

The canning industry in Michigan is in a very healthy condition and canners attending the convention declared that practically every factory in the state would be making a normal pack next year. A light production this year has made possible an early cleaning up of all stocks in warehouses.

A plan to increase the consumption of Michigan canned foods and to give canners technical advice is contained in proposals under consideration calling for the hiring of a paid secretary and opening of a central office in Grand Rapids. Dr. A. R. Todd, of Lansing, is mentioned as one of the men for the office.

Officers elected for the ensuing year are: President, Harold Royal, Shelby; vice-president, William McEwing, South Haven; secretary-treasurer, Dr. A. R. Todd, Lansing; executive committee, E. P. Daggett, Coopersville; Hans Weigands, Traverse City, and Walter Reed, Lake Odessa.—R.

One of Michigan's leading truck crops is celery. It is being severely injured by blight, which is prevalent in all of the main producing districts.

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HAIR CUTTER
Tremendous Saving
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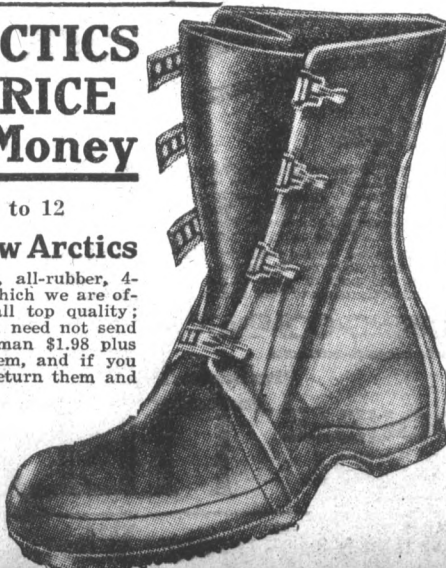
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Men's first quality hip boots at \$2.98 plus postage. Sizes 7 to 12. Order No. MF 179 Send for our catalog.

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BLASTING STUMPS NEAR DWELLING.

LAST spring I had a very knotty problem in a patch of stumps that lay between my house and that of a neighbor. A few years ago it had been a grove fenced in for a hog lot, a very unsightly thing so close to the house. I cut down the grove, moved the hog fence, and without waiting to get rid of the stumps set out cherry trees.

It did not seem possible that they could be blasted as some of them were as close as thirty feet from the house, and besides I could not endanger my neighbor's property, even if I were willing to risk my own, so I got all ready to use a horse-power stump puller. Then I talked it over with my neighbor, who was thoroughly experienced, having cleared some ninety acres of his own. He assured me that I could shoot them out much cheaper than I could handle them in any other way, nor could he see that our houses would be in any particular danger.



Piercey Did the Trick.

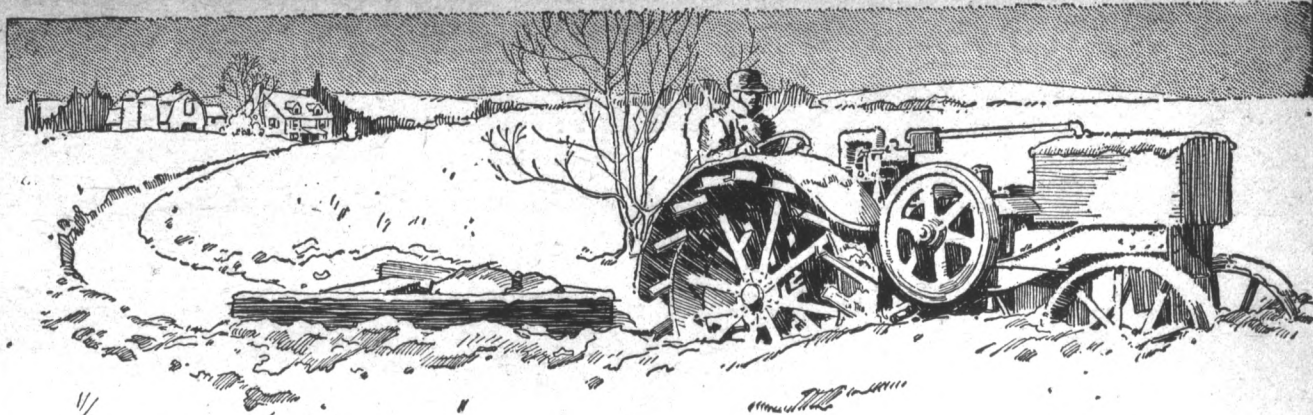
This sounded good to me. I had always liked to be around where dynamite was being used; so I rounded up "Piercey," our local expert, secured plenty of ammunition, and the first nice warm day we were at it.

There were about one hundred stumps to be shot out, they were just the right age to be tough, and the soil was as loose as could be. We started on those nearest to the house. "Piercey" assured me that for some strange reason houses are never injured by blasting stumps. He had shot many of them right in town with no bad results; and he started right in to prove everything he said. The first charge landed half a stump on the roof, but it rolled off, and succeeding blasts sent showers of dirt and debris over the house, the wind was in that direction; but that "Divinity which hedges the fool" worked very hard on the job, and we did not break a window, nor did we injure a cherry tree, and by noon we were through.

The oak stumps came easy and clean. The soft maple, elm and wild cherry were hard to get a hole under and required considerable use of the ax in cleaning up. We could not get enough dynamite under one stump to blast it good, so we put in a small charge to enlarge the hole; but it split the stump and made quite a cavity underneath it, so I built a good fire in the hole, covered it with wet sod, and burned it to the last root.

The piece was kept weedless all summer, and the trees made a good growth. In August I sowed clover, which came up fine, and so did the redroot, horehound and catnip with all their kith and kin. And now in place of an unsightly patch of stumps I have a nice little cherry orchard with one of the hardest, most varied, coverings of weeds in the neighborhood.—E. S. HARRISON.

Sam Says: Workers never kick and kickers never work.



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Ask your dealer for Texaco Tractoil grade "B", "C", or "D", he'll tell you which to use. Texaco Tractoil comes in 33 and 55 gallon steel drums, wooden barrels and half-barrels, and in 5 gallon sealed cans. Try it.

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LAND-CLEARER'S GUIDE

News From Cloverland

By L. A. Chase

CONSOLIDATED SCHOOLS IN THE UPPER PENINSULA.

THE commissioner of schools of Mackinac county is pushing projects for consolidated rural agricultural schools in that county, and The St. Ignace Enterprise publishes a circular letter which the commissioner has been circulating to sell the idea to the people of his county. It is likely that two such schools will be established in Dickinson county in the near future, as I recently learned while in the county.—C.

FEDERAL LOAN ASSOCIATION.

NEGOTIATIONS are under way for the organization of a federal farm loan association at Bessemer, says the Gogebic County Farm Bureau News. The Gogebic County Farm Bureau is advertising local farm products in the papers of the county with a view to finding a local market for farm products.—C.

TO SHARE IN GRASSHOPPER APPROPRIATION.

THE auditor-general of the state is asking that farm organizations desiring to share in the recent legislative appropriation of forty thousand dollars to fight grasshoppers, make known their request for funds at an early date in order that the allotments can be pro-rated when the treasury is in a position to make payments under this head. The north country is particularly interested in this subject, since it is in the undeveloped cut-over lands that the pests get their start, and doubtless the county agents will be given numerous requests for financial assistance from the state.

COUNTY AGENT WORK IN IRON COUNTY.

THE Iron County Agricultural Commission was established by order of the board of supervisors, a year ago, to assist the county agricultural agent in forming real agricultural policies for the county. It consists of three unpaid members. At the time the new system was adopted, there was considerable disposition among the farmers of Iron county, I am told, to do away with the county agent's work altogether. Business men rallied to the support of the agent and the commission was created to give a more practical turn to the agent's activities. It was hoped thereby to avoid a hit-and-miss way of doing things. Iron county, I am assured, is ready for a far-sighted consistent policy of agricultural development, and, if the county agent system as now managed does not get the desired results, may be disposed to scrap it and employ the agent wholly on county account in order to get the results desired.—C.

REFORESTATION NEEDED.

MR. C. E. LAWRENCE, of Caspian, Upper Peninsula member of the Michigan Conservation Commission, has set forth recently the need of reforestation in Michigan. He points out that the state has over 600,000 acres of land that pays no taxes, and that one large corporation holding large tracts in the northern peninsula, has returned at one time 22,000 acres rather than pay the taxes due upon it, and that another company contemplates a similar return of 10,000 acres. Mr. Lawrence is the president of a group of iron mines and views the problem from the standpoint of a business man. Farmers, who may not be

keen for increasing the agricultural acreage of the state, will readily concede that these unproductive lands, which now pay no taxes, and other tracts, still greater in extent, which pay only small taxes, may well be returned to the forest conditions which once rendered them valuable and may again make them valuable.

EXCHANGE SELLS UPPER PENINSULA POTATOES.

THE Michigan Potato Growers' Exchange is reported to be doing a big business in the upper peninsula this year. Early in November it was reported that the branch office at Escanaba had handled more potatoes this year than throughout the entire season a year ago. Some of the local associations are tagging their shipments to indicate the source of the shipment with a view to advertising the district as a potato producer.

LAND CLEARING DISCUSSED.

ON November 8-9 a very important meeting of men interested in soil improvement and farm development was held at Marquette. There were present representatives of the Michigan Agricultural College, the branch experiment station at Chatham, agricultural agents and others interested in agriculture. Mr. L. F. Livingston, recently engaged by the State Board of Agriculture as land-clearing expert for Michigan, outlined the results obtained elsewhere in the middle west. As reported in the Daily Mining Journal, he described how, through the medium of schools of instruction carefully directed and brought to the door of the farmer, the doctrine of more cleared acres was hammered home. Mr. Livingston holds that there is a great need that business men should understand the economics of land-clearing as applied to a section particularly adapted to agriculture. His point is that more cleared lands means more productive acres and increased land value, decreased cost of living and increased savings. Mr. Livingston divides land-clearing into three departments: Instruction in safe and sane methods in the use of explosives, co-operation to secure the material at a minimum cost to the farmer, and the creation of public interest in the securing of increased cleared acreage.

MINT GROWING IN U. P.

IN the spring of 1920 Mr. J. A. Jeffery, formerly professor of soils at the Michigan Agricultural College, and now in charge of the agricultural experimental work for the Duluth, South Shore & Atlantic Railway, made a planting of mint with a view to ascertaining its suitability for northern agriculture. The results of his efforts will be interesting to the readers of the Michigan Farmer, especially those in the southwestern section of the state where the main mint crop is produced. In his report, not hitherto made public, Mr. Jeffery states that no mint oil was distilled the first season, although he thinks it possible to have done so. On August 8, August 16, August 23 and August 31, Mr. Jeffery made distillations of small areas running five to six distillations at each time. The average of the first set of distillations was fifty pounds per acre; of the second set 34.7 pounds per acre; of the third set, 40.5 pounds per acre, and of the last set, 33.5 pounds per acre. In the first test the best yield was 69.6 pounds per acre; the poorest 34.4 pounds per acre.

Francisco Farm Notes

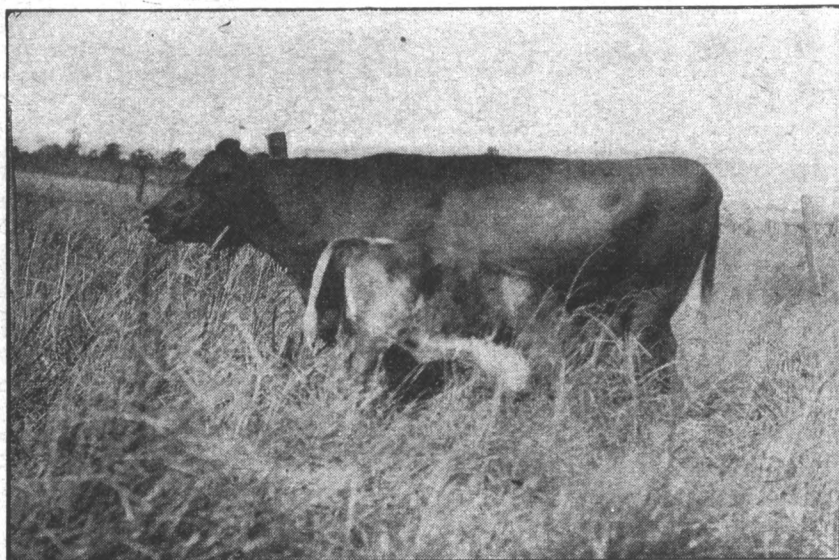
By P. P. Pope

THE ideal season for plowing is here. I wonder sometimes that there is not more of it done. I expect there are good reasons. At least we think we have good reasons and we do not usually do a great deal of fall plowing. Late fall plowing undoubtedly does a great deal of good in destroying insect pests, grubs, cut-worms, corn-ear worms, etc. It breaks up their winter homes and gives them greater exposure to the vicissitudes of winter weather. We find, however, that neither insect pests nor plant diseases become so troublesome in fields where the crops are consistently rotated. It is in the special crop countries more especially that disease and insects become bugaboos.

Generally fall plowing is an aid to easier preparation of the seed bed in the spring. The rootlets have time to decay more or less and the action of the elements, by repeated freezing and thawing breaks up the soil particles. This action acts upon the seed-bed much the same as tillage, bringing new soil particles into physical relation with each other, thus causing a chemical reaction which sets free new

above or below the ground, adds just that much more organic matter to the soil, and say what we please about lime, fertilizers, etc., the crying need of most of our soils today, not only on Francisco Farm but on the farms all over Michigan, is for more organic matter.

We have been leading our farms, like our people, a rather rapid pace and the result is the same; many of them worked out long before their period of usefulness should end. More organic matter, more vegetation, more plant growth allowed to decay and go back is nature's way of restoring new life to her soils. Lime helps, manures help, fertilizers help, but we like to keep the soil covered with sods as much as possible. It is not nature's way to leave her soils bare. That is man's doings. Yet we cannot always follow nature as closely as we might like and get the work done, and inasmuch as farming is largely a game of chance we are not violating the rules of the game when we do fall plowing. So we are planning to do some plowing this fall if weather permits the work to be done to advantage. We



A Thirteen-year-old Cow and Her Eleventh Edition.

elements of plant food. Perhaps the most important advantage, however, may be considered the big boost it gives to the spring work which often comes with a rush. Sometimes one field fall plowed may mean the difference between getting all the spring crops in on time or being late with all of them, and here in Michigan the importance of planting crops on time can hardly be overestimated.

If we could always know what the weather conditions would be it would be much easier to determine the extent of fall plowing advisable. That little "if" is a very small word but it makes life uncertain enough to be interesting. An open winter with lots of rain, or a late wet spring like the last, often leaves as much work to be done in the spring on plowed as on unplowed land. In such a case the fall work is wasted and often worse than wasted on account of irreparable damage from erosion.

We Must Feed Our Soils.

We have an erosion problem on our rolling land that looms bigger and bigger as the years go on. When the land was new and full of humus, and in addition was cheap, we did not need to concern ourselves so much about its washing away. There was lots left. But we need to think about it now, and about the best way to hold the soil on the slopes where it belongs is to keep something growing thereon as much of the time as possible. The grass roots hold the soil together and every bit of growth we can get, either

will not feel, however, that we are losing out badly if old winter closes in before we get to it.

Breeding Beef.

It has been a goodly number of years since we have read much in the farm press relative to the breeding of beef cattle. There has been good reason. The commercial appeal of the dairy has had the best of the argument. At least there has been much more to talk about. Big monthly milk checks, high production records, carefully compiled and balanced rations, etc. Not so much has been said about high costs for equipment, long hours of labor, heavy overhead expense and net profits. Could the question of "net profits" have been brought more into the limelight, the good old beef cow would not have looked quite so insignificant.

For ten or more years past, the beef breeding industry has been passing through a period of liquidation. We have been using up our reserves. Market receipts have been increasing in numbers in the face of a constantly decreasing cattle population. As a result prices have not been very attractive to the beef producer. The feeder has been able to buy his stock cattle cheaper than he could raise them. Many a good native yearling has been sold for little more than he would have brought as a veal calf. This condition can not always exist. If I interpret the times aright the pendulum has already started its swing in the opposite direction, and I believe there is a smoother

Big Opportunities For Power Farmers

Earn \$150 to \$300 a Month

Right on the farm there are jobs that pay big money to trained men. More than one-half of the country's 10 million autos, trucks and tractors are used on farms. They all need service. Thousands of lighting plants being installed. Gas engines by the million in use. In every section repair shops and garages are needed. Power farms employ men at big pay to operate tractors, autos and trucks and service them when occasion demands.

It all means a great future at certain big pay to ambitious, go-getting men. You can do it.

No Experience Necessary

Make a start—that's the thing! In a few weeks under guaranteed training, you can become a first-class, all-round practical auto and tractor mechanic, capable of filling any garage-job. Or, become an auto electrician. Go into business for yourself—start a garage—electric service station—tire repair shop—battery station—or welding shop. You can sell cars, trucks, tractors, farm-lighting systems or engines. There are jobs open everywhere and Detroit trained men are preferred. *The International Harvester Company* says, "We will gladly co-operate with the Michigan State Auto School through our ninety branches in the United States".



Factory Endorsed

Hundreds Like This

Wendell E. Thompson, in charge of 11 tractors on the Anna Dean farm, of 5,200 acres, at Barberton, Ohio, writes: "Before going to your school I had a very crude knowledge of farm tractors. From the time I received my diploma I have never been in want of a position. At present I have good offers to work at any of the following—driving, repairing autos, or selling the same, driving tractors, repairing or selling tractors."

Read These Letters

The Buick Motor Co., Says:

"We believe the Michigan State Auto School, Detroit, would best meet your requirements, as its course of automotive training is most thorough and complete in every detail."

This is one of dozens of letters of endorsement from Leaders of the Auto Industry.

Money Back Guarantee

I personally guarantee that a course of training in this school, the Michigan State Auto School, will qualify you for a position as a repair man, demonstrator, auto electrician, garage man, automobile dealer, tractor mechanic and operator, chauffeur or farm lighting expert; or refund your money. A similar guarantee is made with all courses. Each course includes Life Membership with privilege of our service without charge at any time.

A. G. ZELLER,
President and Gen. Mgr.,
Michigan State Auto School

Learn Trade at Auto Center

Come to Detroit—to the Michigan State Auto School. Train head and hand by factory endorsed methods. Latest equipment supplied M. S. A. S. by famous factories. Detroit is the logical place to learn the auto business. Here, a nickel carfare will take you to the great Ford plants, or the Packard, the Cadillac, the Hudson, Essex, Hupmobile, Chalmers, Paige, Studebaker, Maxwell, Lincoln, Dodge, or to more than two hundred and fifty accessory factories—right into the very heart of the business. No other place can give you the same opportunity for first-hand knowledge.

Start Any Time — Stay as Long as You Like

Train for the big money job on Money-Back Guarantee. You can take a full Automotive Course, or, any one of its money-making branches. You can be an Auto Electrician; a Tire Repair Expert; a Battery Service Man; a Chauffeur-demonstrator; Repairman; Welder; Machinist; or, specialize in motorized farming, with special truck, tractor, or farm electric lighting and farm engine training.

FREE! BIG 188 PAGE CATALOG—

DECIDE NOW that you can make more money! Decide now to make a success! You can do it! Learn all the interesting facts about this unlimited opportunity. We will send you FREE, without obligation, 188-page book that tells all about it—and what the M. S. A. S. can do for you. Book is positive proof. Don't fail to get it. Send coupon or postcard today.

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"The Detroit Auto School"

A. G. ZELLER, President

1012-A Auto Bldg., 3729 Woodward Ave., Detroit, Michigan

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Gentlemen: Send me FREE and without obligation,
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complete information and showing the opportunities
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road ahead for the breeder of beef cattle.

The accompanying illustration is of a very dependable type of beef producer. She is known by her deeds. This old cow has thirteen years and eleven choice calves to her credit and is still going strong. She was calved on Francisco Farm in 1908 and has spent a useful, contented existence in our pastures. She enjoys the simple life, living from May to Thanksgiving on grass and water, and through the winter months on such roughages as the farm may afford; ensilage, alfalfa, clover, bean pods, corn stover and straw. In no one year has she eaten grain enough to fatten a good hog, yet she always keeps in smooth flesh, and raises big fat lusty calves. She has always been allowed the freedom of the yards and pastures, never being tied up except on special occasions, such as attending the county fair or taking the tuberculin test. As near as we can figure out we have around nine thousand pounds of prime beef to offset an approximate cost of a little over \$700. The actual returns in money have been much more than double this cost, and thereby hangs a future tale. I believe the time is here now and will remain for many years when by careful selection, proper mating, economical feeding and judicious handling we can well afford to breed beef cattle for beef.

CATTLE DIE FROM POISONING.

TEN head of Shorthorn cattle on John McKinley's farm in Ashland township, Newaygo county, died of a peculiar poisoning, following cleaning up the corn field after the corn and fodder had been removed. Five of the animals were found dead in the barn the next morning and the other five succumbed during the day. A veterinarian from the Michigan Agricultural College was inclined to believe the cattle had been poisoned by eating cornstalks in the field. A mold had formed on some of the ears and this is believed to have caused the fatal illness.—R.

STATES BUY MICHIGAN SPUDS.

MICHIGAN potatoes are being purchased in large quantities by the states of Indiana and Ohio. A few weeks ago the Hoosier purchasing agent closed a deal with the Michigan Potato Growers' Exchange at Cadillac for forty carloads for the state institutions and only recently the Buckeye state officials purchased a similar amount for the same purpose. All shipments were made in "Chief Petoskey" branded sacks.—R.

A GOOD VETERINARY BOOK.

PERHAPS I could tell the readers of the Michigan Farmer how to get a first-class veterinary book for almost nothing.

I have a book that I would not take \$10 for. I have a memorandum book with the alphabet about eight inches long and four inches wide, with about 255 pages and each week I copy into it the veterinary prescriptions. They are first-class and up-to-date and I surely profit from them.

I have been a reader of the Michigan Farmer for a long time.—F. W. B., D. V. M.

LIME MAKES EFFICIENT HUMANS.

THE twenty-four Finnish athletes at the International Athletic Meet in Antwerp, Belgium, last summer won second place for their country in a field of more than one thousand selected contestants, and this fact is connected with the good supply of lime in their diet by an article in a recent number of the Physical Culture Magazine. The article reviews the peoples

of the earth of notable physical and mental development and hardy constitution, and points out that they have used food that supplies much lime. It states that tuberculosis and other diseased conditions are combated by lime in the diet. The strong functioning of the body muscles is favored by lime.

On the other hand, the writer points out that the modern tendency to refine foods robs the human of these constituents that carry the lime, thus causing human disorders. The obvious suggestion is to introduce more lime into the diet.

OUR LARGE POTATO SHIPPING POINTS.

STATISTICS furnished by the United States Bureau of Markets indicate that Hart, Traverse City, Greenville and Tustin are the four largest shipping points for potatoes in Michigan. The figures are those compiled for the years 1916 to 1920, inclusive, and are the only ones available on this subject.

They show that in 1916 Hart led the state with 584 cars, Traverse City second with 514 cars; Greenville third with 465 cars, and Tustin fourth with 145 cars. In 1917 Traverse City took the lead with 474 cars; Greenville second with 465 cars; Hart third with 381 cars, and Tustin fourth. Hart again took the lead in 1918 with 388 cars; Greenville second with 371 cars; Traverse City third with 242 cars, and Tustin fourth with 136.

In 1919 Hart led with 423 cars; Tustin second with 386 cars; Traverse City third with 364 cars, and Greenville fourth with 295 cars. Last year Traverse City climbed into first place with 420 cars; Hart second with 292 cars; Greenville third with 289 cars, and Tustin fourth with 177 cars.

HOW TO SAVE THE EXPENSE.

HERE is the way that I reduce my automobile tire expense. Take an old tire that has been rim-cut and cut the bead on both sides of the tire. Make small holes in the tire the size of a No. 9 wire about four and a half inches apart. Cut pieces of No. 9 wire four and a half inches long and make hooks on both ends. Let all of the air out of the good tire and then apply the old casing. Then take a piece of No. 9 wire and run it through the hooks and tighten as taut as convenient, inflate and you will get twice the mileage out of your tire.

I have a tire fixed in this way that was blown out about September 10 and considered worthless, but I am using the same tire yet. One can get common belt hooks for about seven cents per dozen, but the home-made wire hooks only cost seventeen cents for two tires. It is worth trying.—Dr. F. W. B.

BRIEFLY TOLD.

More miles of improved roads were built in this country during the season now closing than in any other year of our history, about 14,000 miles being constructed by the various states in conjunction with federal aid.

Experiments conclusively show that the protein of tomato seed contain all the amino acids essential to the growth of animals and also sufficient water-soluble vitamins. Thousands of tons of tomato seeds are wasted each year by the tomato-pulping plants.

To date 10,000 Guernsey cows have been admitted to the Advanced Registry. Of these animals 3,581 gave an average of 10,423.59 pounds of milk and an average of 517.63 pounds of butter-fat.

Did you grow your own alfalfa seed this year? John Proctor, of Perry, harvested thirty-two bushels from twelve acres this year. Other farmers in different sections of the state have secured what seed they need for their own use. Conditions have been rather favorable this season for producing this seed.

What are YOU Going to Do for Christmas?

YOU have friends to remember this Christmas. Perhaps you do not want to spend much money for gifts—but want them to have something on Christmas morning that comes from you.

The Michigan Farmer Will Solve Your Xmas Problem

Subscribe to The Michigan Farmer for a year for one or as many of your friends as you want to remember on Christmas. Before Christmas your friends will receive handsome Christmas cards bearing Christmas greetings from you and the information that The Michigan Farmer will be delivered each week for twelve months.



SPECIAL CHRISTMAS OFFER

To help you solve your gift problem, we have made a special offer to Michigan Farmer readers. This offer permits you to send gift subscriptions to your friends and at the same time extend your own subscription.

By sending two yearly subscriptions, \$2.00 accompanying your order, your own subscription will be extended one year from date of present expiration.

Send four yearly subscriptions, \$4.00 accompanying order, and we will extend your own subscription 3 years from date of present expiration.

Six yearly subscriptions sent us, \$6.00 accompanying your order, will date your own subscription 5 years ahead from date of present expiration.

Christmas will soon be here. Make your list up now. Use the coupon below and send in at once. The Xmas gift cards will be mailed to each of your friends before Christmas.

(cut off here)

COUPON

(cut off here)

Michigan Farmer,
Detroit, Michigan

Gentlemen: Inclosed find \$..... for which send Michigan Farmer with your Gift Card to the attached list of names and addresses

Name R.F.D. or Street P. O. State

My name is.....

R. F. D. P. O. State.....

My Michigan Farmer Expires Date

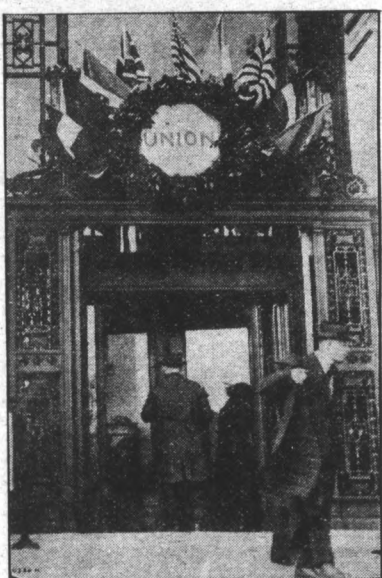
WORLD EVENTS IN PICTURES



Marshal Foch, leader of allied armies, at America's sacred symbol of independence, the Liberty Bell.



Wilson's first public appearance as ex-president occurred when he attended the funeral of America's "unknown soldier."



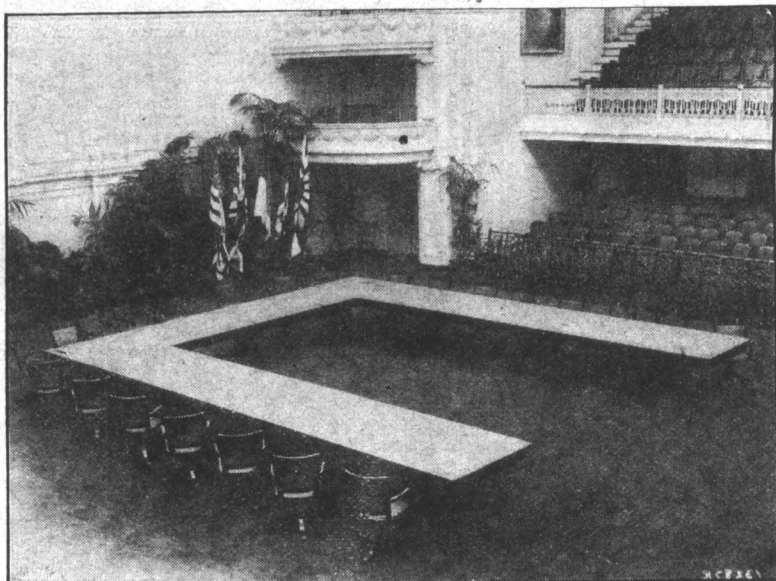
Entrance to building where the Arms Conference is held.



First known picture of Bethlehem under snow. Here is where the biblical shepherds cared for their flocks.



About to drop from airplane to auto at 78 miles an hour.



The table at which the highest officials of the five greatest nations are in conference over world disarmament.



President Harding voices America's tribute to the "unknown soldier" at the Arlington Cemetery Amphitheatre.



Japan's grand old lady brings a hundred-yard peace petition to America.



The nation's capitol illuminated for benefit of Arms delegates.



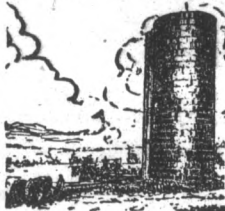
A four-hundred-year-old mummy of a Peruvian Chieftain.

The World's Lowest

ASK ANY WHITNEY OWNER

Dear Sirs:

The tractor I recently bought from you is satisfactory in every way. I have plowed 30 acres this winter. My tractor was very saving on gasoline and oil, considering the condition of the ground. The last ground I plowed was frozen 3 inches deep. I have handled tractors of other makes, but this tractor has more power for its size than any tractor I ever saw.



Respectfully, C. P. SMITH, Aurora, Ohio.

Gentlemen:

Have used the Whitney a year and am very much pleased with results. During the spring of 1918 I plowed 106 acres and fitted 56 acres for farmers who were shortest of help. While the land is hilly I have always plowed right through and have never had to use low speed except on tough joint grass sod. I firmly believe the Whitney is the best farm tractor on the market today.

ARTHUR LOPUS, Waterford, Pa.

Gentlemen:

We have had our tractor since March 1919 and used it for all kinds of work. We plowed and disced 36 acres of oats and 34 acres of corn, using a double disc and spring tooth harrow at the same time when other people had their tractors stored away on cement floors to keep them from sticking in the mud. This fall we plowed about 32 acres for wheat and double disced the same. We had some ground that was never plowed over three inches deep until this fall when our Whitney, followed by a P. & O. gang plow, went through to a depth of eight inches. The neighbors were surprised to see it pull two bottoms eight inches deep—said they could not see where it had the power. I claim that the Whitney is one of the best investments any farmer can make.

JOHN INWALLE, Minster, Ohio.

Gentlemen:

I want to say a word of commendation about the Whitney tractor I bought last spring. I am well pleased with it for two reasons. It has the power to do the work and its light weight enables me to use it on clay land without unduly packing it. And in wet times it is always ready to do its duty—and does it.

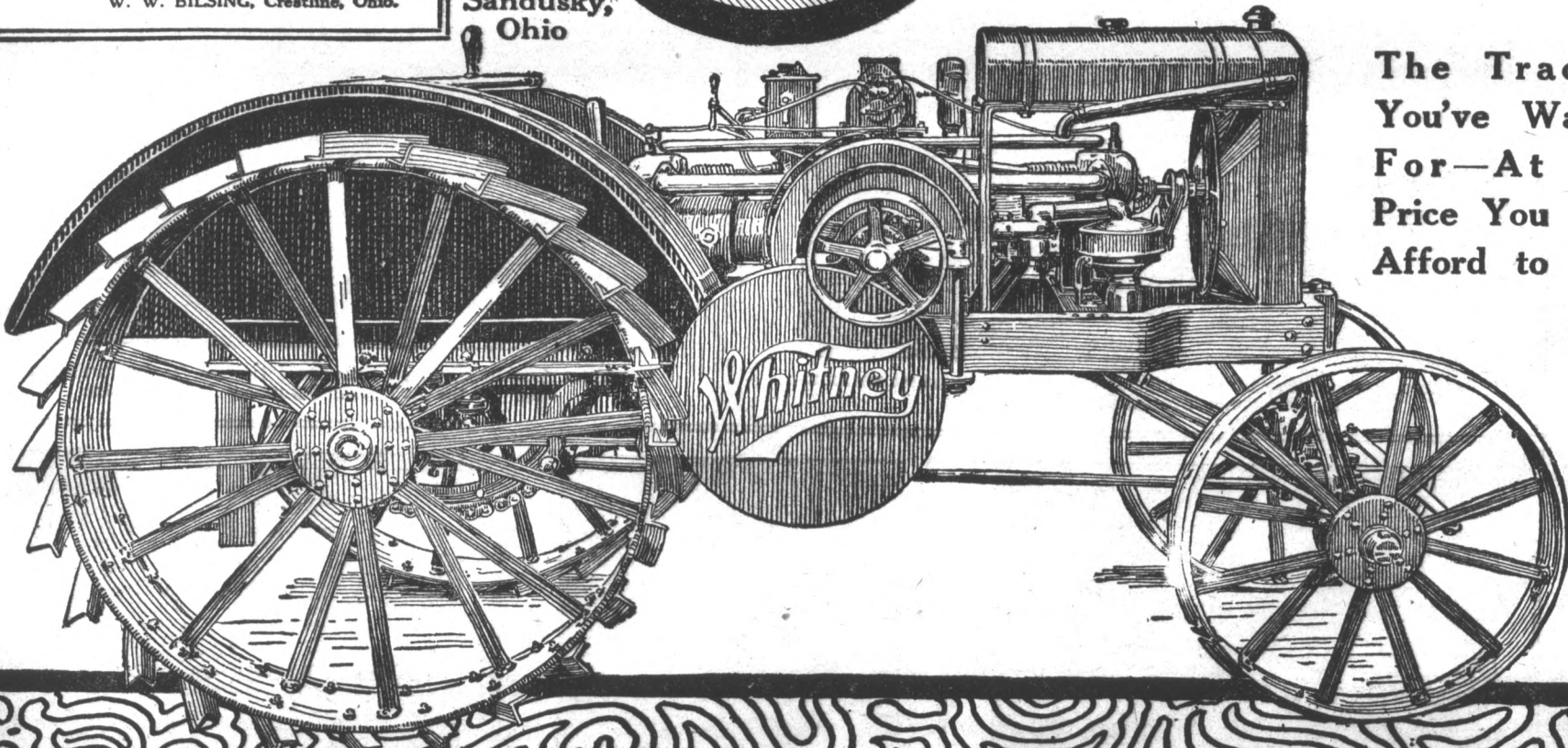
W. W. BILSING, Crestline, Ohio.



A field-proven
medium-size,
standard tractor at a
new, unheard-of price
that places it easily
within the means of
every farmer in the
country.

\$595

F.O.B.
Upper
Sandusky,
Ohio



The Tractor
You've Waited
For—At the
Price You Can
Afford to Pay

274

Best Priced Tractor!

THE Whitney Tractor Company, manufacturers of 16 years' standing in the tractor industry, announce a new, unparalleled price on the Whitney tractor---\$595---complete, no extra parts to buy.

This price, made possible only through huge production, without a doubt *shatters all former standards of tractor value.* It marks a new epoch in the tractor industry. It brings the price of this sturdy, field-proven machine down to a level squarely in line with today's price of farm products -- to a place where *practically every farmer in the country can afford to buy.*

Common honesty has told us that tractor prices would have to come down in fairness to the farmer. Common sense told us that if we concentrated the entire force of a five million dollar company on the manufacture of just this one proved-up type and model -- if, instead of turning out merely a thousand

or fifteen hundred tractors a year we actually built thirty thousand in a season -- then we could certainly produce this one tractor *at a lower price than any-one in the world had ever equaled* -- at a price so reasonable that every farmer could afford to buy. Common hard work did the rest. The result is

A Real Utility Tractor--a Standard, Two-plow Machine at a Price no Higher Than the Cost of a Good Team of Horses.

The Whitney is not new. For 16 years Whitney-built tractors have been proving their economy and reliability under the most adverse operating conditions. And this new-price Whitney is the self-same quality-built machine -- simply produced on a larger scale to sell at a new, low price. Note the specifications. Never before has a tractor with the enormous reserve power capacity, the adaptability to all kinds of work -- belt and draw-bar -- been produced to sell at such a bed-rock price.

Here is the opportunity you have been waiting for -- here is your chance to buy this dependable machine at a fair, square price you can easily afford. Once you know this reliable outfit you'll agree it is the biggest tractor value on the market.

Your dealer will be glad to give you the complete information on the Whitney--or a card to us will bring you full facts. Get the complete information and then decide. Write today.

Brief Specifications

POWER -- 9 H. P. on drawbar; 18 H. P. on belt.
DIMENSIONS -- Length 123"; width 56"; height, 58".
WEIGHT -- Domestic shipping, 3000 lbs. Boxed for export 3900 lbs.
TRANSMISSION -- Selective, 3 forward -- 1 1/4, 2 1/2 and 4 miles per hour. Reverse 2 M. P. H. All gears forged, steel cut and hardened, running in oil.
MOTOR -- 2 Cylinder opposed type, 5 1/2" bore, 6 1/2" stroke -- 750 rev. per minute.
GOVERNOR -- Whitney Special fly ball type. Inclosed, gear driven.
PULLEY -- Direct driven from crankshaft. Size 11" diameter by 6 3/4" face. Clutch controlled. Pulley regular equipment.
FENDERS -- Pressed steel over rear wheels. Regular equipment.
 The Whitney is a sturdy, time-tested, field-proven tractor, built to pull two 14" plows or operate a 22"x34" thresher. It has the traction, strength and reserve power found in the best of the two-plow jobs built. It has not been "rated up." Instead, it is under-rated. Bearings all oversized; drive wheels 6 inches larger than found on the average 2-plow machine. No extras to buy. A one-man tractor that will plow 6 1/2 to 7 acres a day or draw a double 8-foot disc harrow at 2 1/2 mi. per hr.

The Whitney Tractor Co.

2747 Prospect Ave.,

Cleveland, O.

\$595

F. O. B.
Upper
Sandusky,
Ohio

Whitney
TRACTOR

THE BLIND MAN'S EYES

By William MacHarg and Edwin Balmer

Copyright by Little Brown & Company

Early in the afternoon, as they approached the town whose name in bold-face had made him sure that it was the one where he would be given to the police, Eaton rang for the porter again.

"Will you get me paper and an envelope?" he asked.

"You want to write?" Connery asked.

"Yes."

"You understand that anything you write must be given to me unsealed."

"That's satisfactory to me. I don't believe that, even though it is unsealed, you'll take it upon yourself to read it."

The conductor looked puzzled, but sent the porter for some of the stationery the railroad furnished for passengers. The negro brought paper, and pen and ink, and set up the little table in front of Eaton; and when they had left him and had locked the door, Eaton wrote:

Miss Santoine:

The questions—all of them—that you and others have asked me you are going to find answered very soon—within a few hours, it may be, certainly within a few days—though they are not going to be answered by me. When they are answered, you are going to think me the most despicable kind of man; you are not going to doubt, then—for the answers will not let you doubt—that I was the one who hurt your father. You, and every one else, are going to feel—not only because of that, but because of what you will learn about me—that nothing that may happen to me will be more than I justly deserve.

I don't seem to care very much what people other than you may think; as the time grows nearer, I feel that I care less and less about that; but I do care very much—and more and more—that you are going to think of me in this way. It is very hard for me to know that you are going to regret that you ever let me talk with you in the friendly way you did, or that you let me walk beside you on the station platform at Spokane, and that you are going to shrink with horror when you recollect that you let me touch you and put my hand upon your arm. I feel that you do not yet believe that it was I who attacked your father; and I ask you—even in face of the proof which you are so soon to receive—not to believe it. I took this train—

He stopped writing, recollecting that the letter was to be given to Connery unsealed and that Connery might read it; he scratched out the sentence he had begun; then he thought a moment and went on:

I ask you not to believe that. More than that, I ask you—when you have learned who I am—still to believe in me. I don't ask you to defend me against others; you could not do that, for you will see no one who will not hate and despise me. But I beg of you, in all honesty and faith, not to let yourself feel as they do toward me. I want you to believe—

He stopped again, but not because

he felt that Harriet Santoine would not believe what he was asking her to believe; instead, it was because he knew she would. Mechanically he opened his traveling-bag and got out a cigar, bit off the end and forgetting in his absorption to light it, puffed and sucked at it. The future was sure ahead of him; he foresaw it plainly, in detail even, for what was happening to him was only the fulfillment of a threat which had been over him ever since he landed at Seattle. He was going out of life—not only Harriet Santoine's life, but all life, and the letter he was writing would make Harriet Santoine believe his death to have

every stop. Several people got on the train here; others got off; so Connery, obviously, was not preventing those who had been on the train when Santoine was struck, from leaving it now. Eaton, as he saw Connery make the signal for the train to go ahead, sank back suddenly, conscious of the suspense he had been under.

He got out the railroad folder and looked ahead to the next town where he might be given up to the authorities; but when they rolled into this in the late afternoon the proceedings were no different. Eaton could not understand. He saw by studying the time-table that some time in the night



been an act of injustice, of cruelty. She could not help but feel that she herself had been in a way instrumental in his death, since it was the accusation of violence against her father which was going to show who he was and so condemn him. Dared he, dying, leave a sting like that in the girl's life?

He continued to puff at the unlighted cigar; then, mechanically he struck a match to light it. As the match flared up, he touched it to the sheet on which he had been writing, held the paper until the written part was all consumed, and dropped it on the floor of the car, smiling down at it wryly and grimly. He would go out of Harriet Santoine's life as he had come into it—no, not that, for he had come into it as one who excited in her a rather pleasing doubt and curiosity, but he would go out of it as a man whom she must hate and condemn; to recall him would be only painful to her, so that she would try to kill with in her all memory of him.

As he glanced to the window, he saw that they were passing through the outskirts of some place larger than any they had stopped at before; and realizing that this must be the place he had picked out on the map as the one where they would give him to the police, he closed his traveling bag and made ready to go with them. The train drew into the station and stopped; the porter, as it slowed, had unlocked and opened the door of his compartment, and he saw Connery outside upon the platform; but this was no different from their procedure at ev-

they would pass the Montana state line into North Dakota. Didn't they intend to deliver him to the state authorities in Montana?

When the waiter brought his supper, Connery came with him.

"You wrote something today?" the conductor asked.

"I destroyed it."

Connery looked keenly around the compartment. "You brought me two envelopes, there they are. You also brought three sheets of paper; here are two, and there's what's left of the other on the floor."

Connery seemed satisfied.

"Why haven't you jailed me?" Eaton asked.

"We're waiting to see how things go with Mr. Santoine."

"Has he been conscious?"

Connery did not answer; and through the conductor's silence Eaton sensed what the true condition of affairs must be. To give him up to the police would make public the attack upon Santoine; and until Santoine either died or recovered far enough to be consulted by them, neither Avery nor Connery—nor Connery's superiors apparently—dared to take the responsibility of doing this. So Eaton would be carried along to whatever point they might reach when Santoine died or became fully conscious. Where would that be? Clear to Chicago?

It made no material difference to him, Eaton realized, whether the police took him in Montana or Chicago, since in either case recognition of him would be certain in the end; but in Chicago this recognition must be im-

mediate, complete, and utterly convincing.

The next day the weather had moderated, or—here in North Dakota—it had been less severe; the snow was not deep except in the hollows, and on the black, windswept farmlands some sprouts of winter wheat were faintly showing. The train was traveling steadily and faster than its regular schedule; it evidently was running as a special, some other train taking the ordinary traffic; it halted now only at the largest cities. In the morning it crossed into Minnesota; and in the late afternoon, slowing, it rolled into some large city which Eaton knew must be Minneapolis or St. Paul. All day he had listened for sounds in the Santoine car, but had heard nothing; the routine which had been established to take care of him had gone on through the day, and he had seen no one but Connery and the negro, and his questions to them had been unanswered.

The car here was uncoupled from the train and picked up by a switch engine; as dusk fell, Eaton, peering out of his window, could see that they had been left lying in the railroad yards; and about midnight, awakening in his berth, he realized that the car will still motionless. He could account for this stoppage in their progress only by some change in the condition of Santoine. Was Santoine sinking, so that they no longer dared to travel? Was he, perhaps—dead?

No sounds came to him from the car to confirm Eaton in any conclusion; there was nothing to be learned from any one outside the car. A solitary man, burly and alert, paced quietly back and forth below Eaton's window. He was a guard stationed to prevent any escape while the car was motionless in the yard.

Eaton lay for a long time, listening for other sounds and wondering what was occurring—or had occurred—the other end of his car. Toward morning he fell asleep.

CHAPTER XI.

Publicity Not Wanted.

BASIL SANTOINE dying! Blind Lawyer taken ill on train!

The alarm of the cry came to answer Eaton's question early the next morning. As he started up in his berth, he shook himself into realization that the shouts were not merely part of an evil dream; some one was repeating the cry outside the car window. He threw up the curtain and saw a vagrant newsboy, evidently passing through the railroad yards to sell to (Continued on page 541).

AL ACRES—Al Dispenses Some Practical Education.

—By Frank R. Leet



A Real Love Story

Our Weekly Sermon—By N. A. McCune

THE Song of Solomon has long been a favorite with Bible readers. It contains many exquisite passages, such as these: "Who is he that looketh forth in the morning, fair as the moon, clear as the sun, terrible as an army with banners?" "I am a rose of Sharon, a lily of the valleys." "My beloved is mine and I am his: He feedeth his flock among the lilies." "Many waters cannot quench love, neither can the floods drown it." And this is the gist of the story that we find in this beautiful, ancient book. It seems that a wonderfully attractive maiden is seen by King Solomon on one of his journeys. She is persuaded or forced to go to his palace. There the king hopes to win her love, for as yet she does not take kindly to his attentions. Solomon, unfortunately, is a man of many wives. The king tries flattery, presents, promises of wealth and social station, but all to no avail. She remains faithful to the mountain lover, who is at work feeding his flock on the far-off hills. As she thinks of him, she imagines she sees him coming to take her away from her enforced confinement in the king's palace. She greets him rapturously. His coming is like the arrival of spring after the snow is gone, like the coming of soldiers after a siege. "Behold, he cometh leaping upon the mountains, skipping upon the hills. My beloved is like a roe or a young hart." And then, in a dream she imagines she is looking for her lover. Out in the streets of the city at night she asks the watchmen to help her find him. Suddenly she finds him. She is beside herself with delight and will not let him go. But alas, she awakens, and it is a dream.

Solomon is coming. His gorgeous litter is surrounded by six armed men, the giants of his army. The people throng their sovereign, and the procession moves on. But the maiden is thinking of her lonely lover far away. "Behold thou art fair, my beloved, behold, thou art fair. Thy hair is like a flock of boats that lie along Mount Gilead. Thy teeth are like a flock of ewes that are newly shorn." Solomon may think she is talking about him, but he is mistaken. Her innocent thoughts are on the silent hills, where a strongly thewed young man is feeding his sheep.

IN Chapters 6-7 the king makes a final effort to woo and win her. He tells her she will be queen if she will but consent. She will live among the select ladies of the royal household. But she remains true to the rustic youth of her choice. "I am my beloved's, and he is mine." The king has lost all the gallantry of a true gentleman, and he sets her free. He cannot but admire the constancy and devotion of this beautiful peasant lass. Just where she finds the object of her affection, we do not know. But she finds him somewhere, and then comes the final outburst of this heroic girl, when she sings, "For love is as strong as death, jealousy is cruel as Sheol; the flashes thereof are flashes of fire, as very flame of Jehovah. Many waters cannot quench love, neither can the floods drown it."

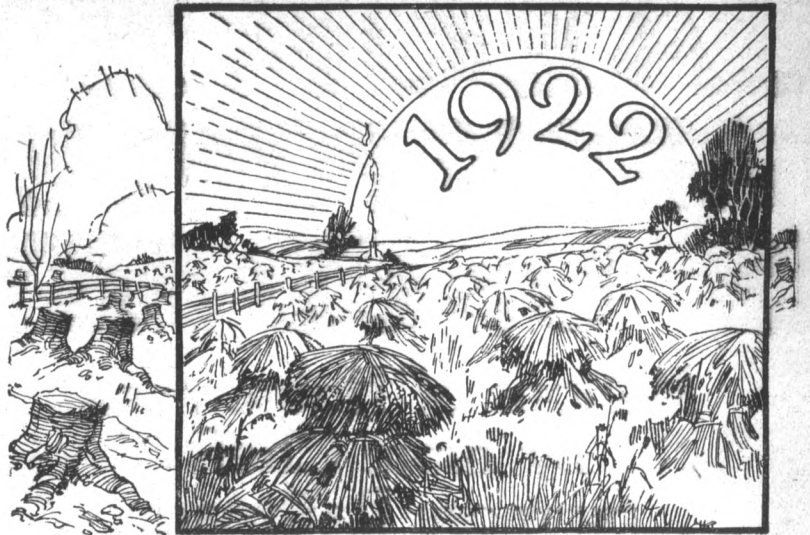
This is but one interpretation of the Song of Songs. The old interpretation is that which pictures the love described as that of Christ and the church. Many people will prefer the old interpretation. To think of the whole book as a love poem, however, gives it greater meaning to many readers than the old interpretation. There is another tale similar to this, that has been immortalized in American

literature by Longfellow. It is, of course, the tale of Evangeline. French pioneers had settled in Nova Scotia, but the British government deported them in 1775. The night before the soldiers marched the French farmers down to the shore and compelled them to get into boats and sail away, Evangeline and Gabriel had had the delight of seeing the marriage papers prepared. The ceremony was to take place the next day. But in the confusion and terror of embarking, Gabriel was separated from his beloved. Gabriel sails away with his father, while Evangeline is left with her father on the shore.

HERE begins the lifelong search of the maiden for her lover, not unlike that of the peasant lass in the Song of Songs. But Evangeline's search was to continue until old age. Sometimes she lingers in towns, scanning the faces of passersby, and making inquiry of all classes of people. Then she journeys on to other towns, and so the endless quest is repeated. At times she visits cemeteries, and reads the epitaphs, thinking that perhaps she might find the name of her Gabriel. One day she gets word that he is a hunter in far-off Louisiana. Then comes the long journey down the Ohio, the Mississippi, in the company of the good priest whom she has known from childhood, and her father. At evening the songs of the Arcadian boatmen resound among the dense foliage of the southern forests. Wild birds fly up with strange screams, and they hear the alligator splash into the river. They find Basil, Gabriel's father. He tells them that Gabriel has gone on a trapping expedition the day before. They follow. At night they sometimes find the cinders of his camp fire, only twenty-four hours old. At last at a mission they stop. Gabriel and his guides have been there only six days before, and he had spoken of the maiden he loved, but had lost. Then came the rumor that Gabriel had journeyed to the north, and was in Michigan, camping along the Saginaw river. Once again she is on the march. By canoe and stage and saddle she travels the miles on miles, and arrives at the Saginaw river, only to find the hunters gone and the lodge in ruins.

SOMETIMES she enters military camps and watches the faces of the soldiers, if perchance one may prove to be that of Gabriel. Old age comes on and she takes up her abode in Philadelphia, for she likes the simple ways of the Quakers. A pestilence sweeps the city. Everyone who has skill in caring for the sick and dying, is pressed into service. None is more tireless than Evangeline. She becomes a sister of mercy. One day she comes upon an old man, dying. It is Gabriel. She kneels by the bedside. "O, Gabriel!" He opens his eyes and looks at her, but cannot speak. Instantly he is Acadia, and there is the village with its white cottages, and there, coming down the street from the church, is Evangeline. He looks at her again and tries to get up. In a few minutes his head upon her breast, he breathes his last, and she murmurs, "Father, I thank thee."

This is the story that is nearest like that of the Song of Songs that is known. And both are types of the love of Christ for the soul. The soul goes on through the world, here, there, everywhere, eluding the patient Lover who would woo and win. He never gives up the quest. He never declares that the soul is unworthy of his patience and his love.



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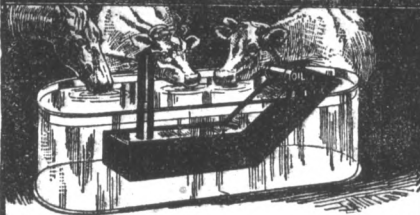
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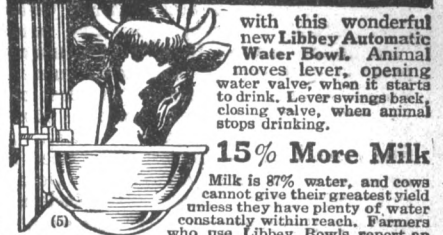
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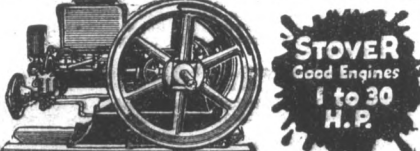
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Woman's Interests

Christmas Cakes and Cookies

By Rebecca R. Bailey

ALTHOUGH so many delicious and really wholesome cakes and confections can be bought ready made now, we always at Christmas time fall back on the old-fashioned, home-made cakes, cookies and candies. Real "old country" Christmas goodies seem to possess more charm than any others and the recipes for the same are usually most jealously guarded by the cooks who use them.

One family would not feel as though it were Christmas if their dinner table could not boast a real English plum pudding and fruit cake. Another old lady always made Welsh cakes at the holiday time and these cakes were molded in a shell that was brought from Wales by her grandmother.

Dark cookies, fruit cake, and plum pudding are considered to be much

turn the attention to small cakes and cookies. For white cookies use your best and most dependable cooky mixture. They should be thin and brittle when baked, and melt as eaten. Before flavoring the batter, or dough, divide it in three or four portions and work into each portion a different flavoring. Lemon, vanilla, orange (the juice), anise, coriander, almond, cinnamon and clove flavors are all delicious. The dough should be put outside until it is very cold. It can be mixed one day and baked the next if one wishes. The next step is cutting the cookies, for which you should have a supply of fancy cutters, animals, birds, chickens, stars, hearts, etc., as well as square, oblong, and round. Many people exchange cutters with their neighbors, thus obtaining a greater variety of cakes. Spread thin icing on some with a raisin or almond or other nut meat in the center and then sprinkle the whole with cake candy. A deep frosting should be put on some and covered thickly with shredded coconut, or a nut meat pressed into the center. The small plain shapes, such as round, square, or oblong may be put together two and two in sandwich style with a plain frosting between, or with a combination frosting and plain or iced tops. By using plain white icing with fruit or nut combinations and the same with plain chocolate icing one may produce twenty-five or more cakes all from the same dough.



Mr. and Mrs. Gotfried Sydow, of Brutus, Celebrated their Golden Wedding on November 26.

better by ripening, or curing several weeks, hence the Christmas baking often begins about Thanksgiving time, at the latest the week after. One can do a small amount at a time in this way and not feel as though the baking is such a task as it would be if it were all done at one stroke.

To make the Christmas baking a success and have it all run smoothly have on hand a supply of flavorings, spices, seeds—caraway, anise, cardamom, and freil. Also cocoa, chocolate, shredded coconut, light and dark brown sugar, granulated and confectioners' sugar, and the colored sugar candy, or cake candy. Nuts, raisins, dates and figs are useful, also anything else in that line you may happen to think of or see in the stores.

For your Christmas fruit cake use your common year-round recipe and "cram" it with as many raisins, nuts, currants and candied peel as you can possibly knead and mix into it. Bake in loaf tins and cover with thin icing. When cooled wrap in waxed paper and put away in a carefully covered and locked box until Christmas.

Use your ordinary suet pudding recipe for the plum pudding and give it the extra touch by stuffing it as you did the fruit cake. All candied peel should be sliced very thin or put through the food chopper. Put the pudding away in the same box with the fruit cake and steam till hot just before using.

With these out of the way one can

A favorite Christmas cake is Pfeffer-nussen, or pepper nuts. Flavor a portion of your cooky dough with anise flavor or work into it a teaspoonful of anise seeds. Roll out and cut in half or three-quarter-inch squares and bake. You will want several quarts of these.

Some of the plain shaped cookies with a dark icing are nice made into "name cakes." Take macaroni letters used for soups and press them into the icing while soft, spelling the names of members of the family and guests. These make ideal place cards for the Christmas dinner table and cause much delight among the children. Make some dark cakes by mixing a square of melted chocolate into a portion of dough. Sandwich some of these with white filling with a white or brown top icing.

A favorite mixture for brown cookies is as follows:

One cup molasses, one cup shortening, one-half cup warm water or coffee, one teaspoonful soda, one-half teaspoonful baking powder, one cup of brown sugar, and several cardamon seeds pounded fine.

Mix the above ingredients in an enamel or aluminumware pan and let it come to a boil on the range. Let it get perfectly cold and add two well-beaten eggs and flour to make a stiff dough.

Instead of the cardamon seeds one may use lemon, cloves and cinnamon, in the same dough. Another variation is to add a cupful of chopped nuts or fruit, using one fruit alone or comprising raisins, figs and dates. By mixing a quantity of dough at a time and keeping in a cold place the cookies may be baked whenever one has the inclination and a hot oven.

By using this method for the Christmas baking every jar and canister should be filled for holiday happiness.

MARY'S LITTLE LUNCH.

Mary had a little lunch,
To tell the honest truth,
Too little; quite inadequate;
It wouldn't fill a tooth!

It went with her, this little lunch,
This paper, bread and bacon,
To school each day; she lost her
punch,
Her health was sadly shaken!

'Til Mary's school served every day
A warm milk soup nutritious.
Now ask her how she feels; she'll say,
"Oh, boy, I feel auspicious!"

EVERYDAY USES FOR COMMON SALT.

BY GRACIA SHULL.

IF clothespins freeze to the clothes on the line soak them in hot salt water for a few moments then use and they will never freeze fast again. Throw a little salt in the last rinse water and the week's wash will not freeze. Place a tablespoonful of coarse salt in the kitchen drain at night just before retiring and the trap, or drain, will never freeze. Sprinkle a little fine salt on top of the hot stove then hold plumes over this and they will curl naturally and beautifully. If grease gets on fire on top of the stove throw salt on it. This will put out the blaze instantly. Fill the old hot-water bottle with hot salt and use for pains of any kind instead of hot water—it holds the heat longer and may be heated in the oven or on radiator.

Use equal parts of salt and vinegar to clean brass and copper. Place cracked ice and salt in the rubber water bottle and use in case of headache or fever when a cold compress is desired. Sprinkle coarse salt on the asparagus bed and along cracks in cement or brick walks. This will kill every weed it touches, also it is good for the asparagus. Beautiful beads and ornaments are made of salt and cornstarch in certain proportions.

THE SULKY CHILD.

A HARD type of child to deal with and one that tries our patience, is the sullen child. He makes no outlet for himself like the angry child who vents his temper in screams and passionate talk. His bad temper works all on the inside. He broods over the trouble, distorting and enlarging it by dwelling upon it. He usually refuses comfort or sympathy and seems to enjoy shutting himself away from everyone. He is usually a sensitive child—shy, lacking confidence in himself, inclined to dwell upon himself too much. What can we do with such a child? He won't talk the trouble out, like the high-tempered child, and it is unwise to put him by himself as you would the high-tempered child. Give him something to be busy about just as soon as possible. Work is even more necessary for him than for any other type of child, for we must get him out of himself. If possible, have him work where he will have the companionship of his brothers and sisters, or perhaps he can help you in what you are doing. Work is a blessing for most persons, but for no one more than for the child who is inclined to live his little life inside of himself. This type of child is usually reserved and takes things hard but to the few people he loves he gives a wealth of affection and loyalty and usually he has a deep, strong nature which is sincere and true.—National Kindergarten Association.

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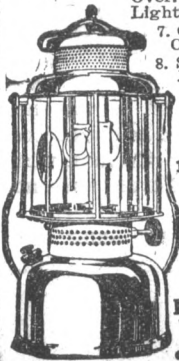
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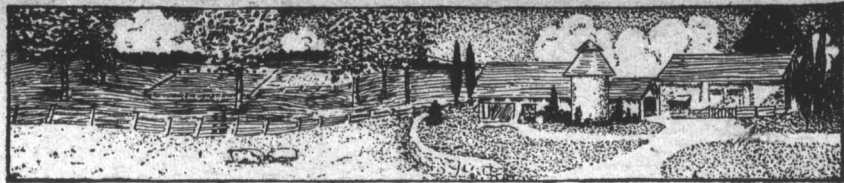
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DON'T FRIGHTEN THE BABY.

BY MRS. E. M. ANDERSON.

IT isn't generally supposed that babies or young children pay any attention to news items or other matter which their elders chance to read aloud, or that they would understand it if they did, but it would often be well to be much more careful than we are about these things; the little brain is alert and active, the child hears what we least suspect, and no human being can anticipate what unexpected meaning will be conveyed to the baby mind.

My two-year-old girlie was so terribly frightened by a news account of some Belgian children who were separated from their parents and herded in a box car during the German invasion, that I had a serious time with her for more than a year. Some of us read the item aloud with no thought that it would affect the baby, but I saw at once that she was unduly alarmed and it soon dawned upon me that she expected something of the kind to happen to us. It was useless to tell her that no one but herself wanted mamma and no one but mamma wanted her, and that all these things happened so far away they couldn't come to us. She still had a haunting dread that they might. I could sympathize with her when I recalled with what horror I had heard an account of cannibalism in my very early childhood and how surely I had expected to be eaten. The fact that the child is not easily reassured indicates no lack of confidence either in the veracity of the parents or in their care and protection; I know, because I remember distinctly thinking that my people didn't believe cannibals would get me and that they would surely protect me if they could, but I was horribly afraid the savages would surprise them some day and maybe eat us all. A child has no comprehension of distance and when he knows a thing happens anywhere, why not on mamma's lawn or in her garden?

My own little girl's fear of German invaders took rather an amusing, but very annoying turn one day when I had company. A friend and neighbor, who had spent several years in the west, was home with his bride. Being a teacher and very much in demand, he began teaching here soon after his return. He wanted to make friends with her but she was very suspicious. The climax came when he told her he had a great many more little girls in his school room every day. How she screamed! She clung to me with all her might and was so evidently terrified that I didn't dare refuse to cuddle her. I had to take her to another room and it was almost impossible to leave the baby to bid them goodbye. She screamed every time she saw that man, and the terribly frightened look in her eyes warned me that I must be careful with her, for it was no common fear. I soon discovered that she thought he was the German who stole those Belgian children and now he had come for her.

Let us think twice before we read

sensational news where the baby can hear—it won't sound to baby ears as it does to us.

HOW THEY CURE PORK IN MISSOURI.

THE Missouri College of Agriculture gives the following formula for dry-curing 1,000 pounds of pork: Fine, clean salt, 40 lbs; white or brown sugar, 10 lbs; white or black pepper, 4 lbs; red pepper, 1/2-lb; mix thoroughly. Each piece of meat should be rubbed with fine, clean salt and allowed to stand in a pile from six to twenty-four hours so that the bloody serum can drain out.

Rub each piece of meat thoroughly with the dry-curing mixture. Be especially careful that the cure reaches the muscles around the ends of the bones of the hams and shoulders. Pile the meat carefully, with the skin down, in a cool, airy place. Avoid damp, musty cellars. The pile should not be more than three feet deep. Repeat the application in three days. The third application may be made in five or six days after the second. In general, allow the meat to cure a day and a half for each pound. After this treatment it should be thoroughly cured.

Wash the meat with warm water and remove any extra curing mixture. Wipe it dry and hang for smoking. Smoking may be done with hickory, oak, apple, or any wood except that of the pine family. Twenty-five smudges will give a good mild smoke. The amount of smoking, however, will depend upon the taste of the consumer. The meat should be carefully wrapped or sacked to keep out skippers.

HOME QUERIES.

Household Editor:—I have found many articles of interest in your columns and would like to ask your advice about cake baking, as to the rule of putting ingredients together, and why my cakes are coarse-grained. This is my common rule—break an egg in a cup, fill hole half full with butter, remainder milk, add to one cup of sugar, and beat, salt, flavor and flour.—Mrs. A. P.

The right way to put a cake together, so as to secure a fine-grained, perfect product is as follows:

Cream butter, beating with a spoon, add sugar gradually, and after this, egg yolks beaten separately until they are lemon colored and thick. Sift the ingredients together, sift flour before it is measured, and add to the first mixture alternately with the milk. Last of all cut and fold in the stiffly beaten whites of the eggs. Do not beat the cake after whites are added. To cut and fold, cut through the mixture with a knife or side of a wooden spoon, and fold by turning the spoon completely over.

Coarse sugar makes a coarse-grained cake. The finest granulated sugar should be used. Bread flour gives a thick compact cake. Cake or pastry flour should be used to get the best results.

The pans should be buttered and floured, or lined with buttered paper. The cake should be removed from the



tin as soon as it leaves the oven.

Almost as much depends upon the baking as on the mixing. Have nothing else in the oven, and keep the cake as near the center as possible. The oven should be moderately hot at the beginning. During the first period the cake should rise, that is, it should rise before the crust forms. If the crust forms too quickly, the oven is too hot and the cake will rise unevenly and probably crack the crust. Having a cake too thick will also make it rise

unevenly. To keep the top as even as possible after baking, draw the mixture away from the center to the sides of the pan when you pour it in.

If fruit is to be mixed through the cake add it to the butter and sugar. It may be dredged with flour and put in layers, alternating layers of cake mixture with layers of fruit.

Regarding house building. We used several articles on house planning last spring. Some time in the near future we hope to run two or three more.

The Pathfinders

Milly Arrives at Her Home

By Alta L. Littell

MILLY eyed the road ahead apprehensively. For miles back the flivver had fought a steadily losing fight with the sand, and on the last rise of ground had shown signs of early demise. But so far standardization had triumphed. If they were working out towards a firm road they might pull through, but in answer to her question, which she tried hard to make unconcerned, Bob assured her the worst was yet to come.

It came suddenly. There was a sinister snap, the rear wheels settled resignedly into the sand, simultaneously with a last weak chug from the engine, and a strong "Damn" from Bob.

Though a wife of but six hours Milly wisely choked down a desire to laugh. It really was funny to be stuck in the wilds with a disabled flivver on the first lap of your honeymoon, but Bob was too busily engaged in expressing his views on the total depravity of inanimate objects to see any humor in the situation. Milly meekly climbed out, and with more than human intelligence, forbore to make a suggestion. While Bob donned coveralls, she wandered up the road interestedly taking in this new country which was to be her home.

It was all so different from her own county with its rolling fields of rich loam, its luxuriant gardens, big comfortable houses, shaded by long-limbed elms and graceful maples, its orchards, and its barns bursting with the fruits of harvest.

Here in the infrequent clearings were stretches of sand dotted with blackened stumps and forlorn looking shacks of unpainted boards, or of logs, on which the sun beat down mercilessly. An occasional morning-glory struggled for existence at the windows, and in rare instances a poplar had attained some size. Even the weeds showed none of the vigor which Milly remembered in those she had been fighting since she had her first garden at the mature age of five years, and the grass was a sort of sickly growth in scattered patches. Could it be possible that her new home was no better than this? Bob had told her not to expect any such country as she was leaving, but she had not thought anything like this could exist in Michigan, and within one hundred miles of where she had spent twenty-two well-fed easy years.

Bob's whistle put an end to her wanderings. She hurried back to see what he had accomplished.

"There's a leak in the gas-tank, both front wheels wobble, and the rear axle is cracked, but I've moved her forty rods," he grinned cheerfully. "Sit light and don't breathe oftener than necessary, and we may yet be saved."

Milly obeyed his injunctions literally. As the disabled machine lurched tipsily through the sand, now bumping over logs left from the old corduroy pike, now suddenly descending into bottomless pits, she held her breath more frequently than the situation demanded. It seemed incredible that back there a few miles to the east was a well-kept highroad, with machines

shooting smoothly along to Detroit and the north.

Bob kept up a disjointed conversation. Once the way ran through a bit of virgin forest, overlooked when Michigan's lumber barons were making their fortunes at the expense of posterity. The contrast with the scrub oak and scraggly poplars and birches through which they had been passing struck both into silence.

"Seems a shame that no one thought of us fellows who were coming on when they took down all those trees and left nothing but waste," Bob said finally. "If they'd only started a new lot growing then!"

"Is it too late now?" Milly asked.

"'Spouse not," Jack admitted. "But that wouldn't do us fellows any good." "But what about the folks who'll just be starting thirty years from now?" Milly persisted.

A sudden lurch of the car relieved Bob of the necessity of answering. For several miles driving took all his attention, nor, when after three hours of plunging and stalling and starting up again they came out upon a road which resembled hard ground, did he brighten up. It seemed to Milly that something of the bleakness of the country then settled down upon him. His face fell into hard lines, the corners of his mouth, which she had seldom seen except curved in smiles, drew down, his eyes narrowed and grew comber. Did the country lay its spell on those who tried to force it into ways of civilization? She resolutely drove away the thought.

"He is just tired to death," she told herself.

The clearing now seemed permanent. Farms, neatly fenced and evidently well worked, were on either side. There had been some attempt to make the roads passable.

"Five miles more and we're safe," Bob said finally. "Think you can hold your breath that long?"

The knowledge that she was so near her new home, was even now passing the homes of those with whom she was to neighbor, brought Milly up with a start. She had been hoping against hope that her home was to be in one of those fertile sections which she knew existed in this part of the state, but the same evidence of struggle against odds, which had depressed her all during the day, continued. They drove through "The Corners" where Bob answered the hail of a half dozen men, turned sharply to the right, down a little incline over a bridge across a tiny stream and into a farmyard.

Milly shut her eyes and winked hard. The same unpainted shabby house, a woodbine half shading the west porch, and a few drooping pansies in a box feebly smiling a welcome. The barn was big and well kept up, with water piped to it and to the concrete pig pen. A few discouraged looking Biddies stalked and clucked around a tumble down henhouse.

They were all in the yard before the loud honk of the horn had died away. Milly found herself taking the hand

(Continued on page 547).

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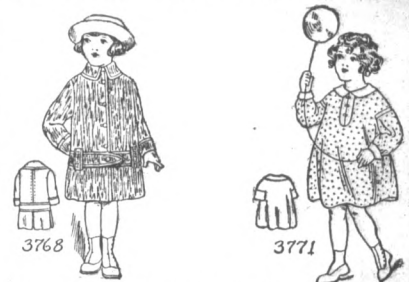
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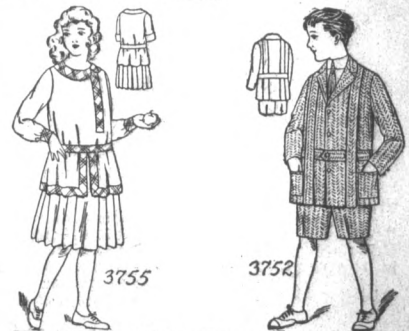
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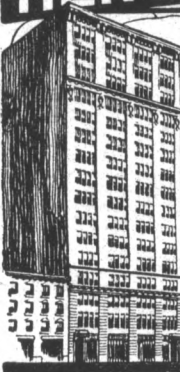
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Our Boys' and Girls' Page

My Poultry Club Work

By Hazel Neville

ONE day last spring as I stood in the window of the school house

I glanced across the street and saw a flock of White Rocks that belonged to one of the last year club members. My first thought was that we should begin our poultry work right away as it was already April and we wanted an early start. After talking it over with Mr. Conrad, our superintendent, I called a meeting for all those who wanted to join. There were seven of us present. We elected our officers and club leader.

After the meeting I wrote to Mr. Kebler, superintendent of the Menominee County Agricultural School, for information as to where to get our eggs. He wrote back saying that the agricultural school would furnish us with three settings of eggs each, if we would promise to give one of the best pullets back to the school in the fall of the year. We all agreed and soon had our eggs. The club chose the White Rocks and Barred Rocks, they being of the general purpose type.

Club work went along fine and in August came a letter from Mr. Kebler saying that he would be here in a few days to teach us how to judge hens for egg production. He also stated that the three that could do the best would be entitled to a trip to Chatham, which is a small town one hundred and twenty miles from here, where the State Experimental Farm is located. We had one lesson on judging hens, and on the ninth of August we left Stephenson for Chatham.

While there we stayed in tents on the farm. The boys were on one side of the brook in Bachelor's Paradise and the girls on the other side in No Man's Land. We had a very good time there and with the help of Olive Bushonville and Milton Corey, my colleagues, we carried away the Upper Peninsula Poultry Championship. Of course, that meant that we were entitled to a free trip to the State Fair.

We left Stephenson on September 6 on the 10:00 o'clock train at night for Detroit, arriving there the following night at 6:00 o'clock. From the Michigan Central Station we took a street car to the fair grounds. On entering the grounds one could see in the distance some club tents. At first we thought we had to stay there, but after inquiring found out that that was where the boys stayed. The girls were about a block away in the Alladin Home.

The next morning we gave our first demonstration. At 1:00 o'clock that afternoon we gave the second one and judged hens for egg production, and also spring chickens. After our demonstrations we went through the different stock buildings. They had a fine display of horses, sheep, cows, hogs and chickens. That afternoon we saw a man jump from one flying aeroplane to another. After supper we went to the grand stand where they pulled off different stunts and games. They also had some beautiful fireworks.

One of the games was the auto polo game between the Americans and the English. This was very exciting, the score being two to one in favor of the Americans.

On our way back we enjoyed some of the different rides and went through some of the show buildings. The next morning we went through the main building and horticulture and dairy buildings. In the dairy building there

was model made in butter, of a girl milking a cow.

In the afternoon the different clubs went on a sight-seeing tour through the city of Detroit, Palmer Park and Belle Isle. We drove by the Ford factory, Ford Hospital, and many other factories.

Our first stop was at the Michigan Farmer building, where the Michigan Farmer paper is printed. Here Mr. Wilken showed us through the different parts, and then took us all over to the ginger ale factory where the Michigan Farmer treated us to a glass of ginger ale. We left there and crossed the Detroit river to Belle Isle. This island is one of the most beautiful in the world. From one side can be seen the city of Detroit and on the other Canada. We made one stop here at the Aquarium where all the different sea animals are. From there we went back to the fair grounds. We had made the round trip of thirty-five miles which took five and a half hours.

The next morning at 7:00 o'clock we left Detroit for Lansing on the Pere Marquette. Here we visited the State Capitol and Michigan Agricultural College. We left there that night at 11:00 o'clock for Chicago, where we stayed that day, and left in the evening at 9:00 for Stephenson.

We had a very good time and I think that the boys and girls of the Stephenson Poultry Club will be more encouraged next year than they were this year.

FIVE HUNDRED JUNIOR FARMERS TO VISIT INTERNATIONAL.

FIVE hundred of America's brightest farm boys and girls will spend a week in Chicago during the International Live Stock Exposition, November 26 to December 3. These youngsters are all prize-winning members of the Boys' and Girls' Clubs, which operate under the auspices of the agricultural colleges and the United States Department of Agriculture cooperating. Some have raised better calves; others have grown better corn. Still others have made better bread—all in line with their motto "to make the best better." Thirty of the forty-eight states will be represented by state champions in the various clubs, the winners being selected from 330,000 competing club members.

Among other prominent men who take part in the program are Secretary of Agriculture H. C. Wallace; President James R. Howard, of the American Farm Bureau Federation; President Thomas E. Wilson, of the Institute of American Packers, and E. T. Meredith, former secretary of agriculture and chairman of the national committee on Boys' and Girls' Club work, under whose auspices the entertainment for the week is provided.

On November 29 President Howard and staff will hold a reception for the boys and girls in the general offices of the American Farm Bureau Federation. A detailed program for the week has been worked out.

SUNSHINE HOLLOW.

Willie Peck went to the city to get into some profitable line. He got into a bee line for home the first week and Mrs. Peck thinks the big manufacturers must have misjudged Willie or they would have snapped him up quick when they had the chance.

When You Write to Advertisers Please Say "I Saw Your Ad. in The Michigan Farmer."

MICHIGAN YOUNG PEOPLE AT INTERNATIONAL.

MORE than two score boys and girls from Michigan are attending the International Live Stock and Grain Expositions at Chicago this week as a reward for their achievements in club work. Some of them were sent by state and county fairs, some by farm bureaus and some by commercial concerns.

Following is a partial list, as prepared by R. A. Turner, of M. A. C., state club leader: Judging team, sent by Michigan State Fair, Sidney Phillips, Charlotte, Eaton county; William Peters, Homer, Calhoun county; Reuben Kinnunen, Keweenaw Bay, Baraga county; Roscoe Simmons, alternate, Athens, Calhoun county.

Sent by Jackson County Fair: Wilbur, Norris, Quincy, Branch county; Lawrence Schilling, Quincy; Sheldon Linde, Manchester, Washtenaw county; Ralph Nowak, Chesaning, Saginaw county; Joseph Bishop, Chesaning; Vern Diehl, alternate, Davison, Genesee county.

Sent by West Michigan State Fair: Joseph Hickey, Vermontville, Eaton county; Lynn Smith and Don Bosworth, Charlotte, Eaton county; Wilson Winegar, alternate, Olivet, Eaton county.

Sent by Hillsdale County Fair: Fred Halleck, Osseo; Dayton Lyons, Hillsdale; Clifton Lyon, Pittsford; Perry Hastings, alternate.

Sent by Lenawee County Fair: Theodore Knopf, Blissfield; Perry Rawson, Manitou Beach; Melvin Berry, Tecumseh; Victor Beal, Manitou Beach.

Sent by Iron County Fair: Elvin Christenson, Iron River; Iver Peterson, Crystal Falls; Walter Stuk, Iron River.

Sent by Eaton County Fair: Carol Kline and Frank Pifer, Charlotte; Russell Jordan, alternate, Eaton Rapids; grain judging, Arlo Shumaker, Charlotte.

Sent by Wayne County Fair: Starr Northrop and Geraldine Young, Northville.

Sent by Cheboygan County Farm Bureau: Gertrude Straight, Wolverine; Harlan Steward, alternate, Alanson.

Sent by Calhoun County Fair: Ovid Martin, Athens; Roscoe Simmons, alternate, Athens.

Sent by Washtenaw County Farm Bureau: Kenneth Ferguson and Harry Sturdevant, Manchester; Francis Malbach and Le Roy Braun, Ann Arbor; Lynn Wortley, Rushton.

Sent by Branch County Farm Bureau: Clarence Holmes, Quincy; Walter Weaver, alternate, Brownson.

In addition the state poultry and corn club champions will be sent by Armour & Co., and the three state canning club champions will be sent by Wilson & Co.

THE BLIND MAN'S EYES.

(Continued from page 534).

the trainmen. Eaton's guard outside his window was not then in sight; so Eaton lifted his window from the screen, removed that, and hailing the boy, put out his hand for a paper. He took it before he recalled that he had not even a cent; but he looked for his knife in his trousers pocket and tossed it out to the boy with the inquiry: "How'll that do?"

The boy gaped, picked it up, grinned and scampered off. Eaton spread the news-sheet before him and swiftly scanned the lines for information as to the fate of the man who, for four days, had been lying only forty feet away from him at the other end of a Pullman car.

The paper—a Minneapolis one—blared at him that Santoine's condition was very low and becoming rapidly worse. But below, under a Montana

date-line, Eaton saw it proclaimed that the blind millionaire was merely sick; there was no suggestion anywhere of an attack. The paper stated only that Basil Santoine, returning from Seattle with his daughter and his secretary, Donald Avery, had been taken seriously ill upon a train which had been stalled for two days in the snow in Montana. The passenger from whom the information had been gained had heard that the malady was appendicitis, but he believed that was merely given out to cover some complication which had required surgical treatment on the train. He was definite as regarded the seriousness of Mr. Santoine's illness and described the measures taken to insure his quiet. The railroad officials refused, significantly, to make a statement regarding Mr. Santoine's present condition. There was complete absence of any suggestion of violence having been done; and also, Eaton found, there was no word given out that he himself had been found on the train. The column ended with the statement that Mr. Santoine had passed through Minneapolis and gone on to Chicago under the care of Dr. Douglas Sinclair.

Eaton stared at the newspaper without reading, after he saw that. He thought first—or rather, he felt first—for himself. He had not realized, until now that he was told that Harriet Santoine had gone—for if her father had gone on, of course she was with him—the extent to which he had felt her fairness, almost her friendship to him. At least, he knew now that, since she had spoken to him after he was first accused of the attack on her father, he had not felt entirely deserted or friendless till now. And with this start of dread for himself, came also feeling for her. Even if they had taken her father from the other end of this car early in the night to remove him to another special car for Chicago, she would be still watching beside him on the train. Or was her watch beside the dying man over now? And now, if her father were dead, how could Harriet Santoine feel toward the one whom all others—if not herself—accused of the murder of her father? For evidently it was murder now, not just "an attack."

But why, if Santoine had been taken away, or was dead or dying, had they left Eaton all night in the car in the yards? Since Santoine was dying, would there be any longer an object in concealing the fact that he had been murdered?

Eaton turned the page before him. A large print of a picture of Harriet Santoine looked at him from the paper—her beautiful, deep eyes gazing at him, as he often had surprised her, frankly interested, thoughtful, yet also gay. The newspaper had made up its lack of more definite and extended news by associating her picture with her father's and printing also a photograph of Donald Avery—"closely associated with Mr. Santoine in a confidential capacity and rumored to be engaged to Miss Santoine." Under the blind man's picture was a biography of the sort which newspaper offices hold ready, prepared for the passing of the great.

Eaton did not read that then. The mention in the paper of an engagement between Avery and Harriet Santoine had only confirmed the relation which Eaton had imagined between them. Avery, therefore, must have gone on with her; and if she still watched beside her father, Avery was with her; and if Basil Santoine was dead, his daughter was turning to Avery for comfort.

(Continued next week).

A dairy survey just concluded in an Ohio county shows, in every case, that the man with high-producing cows is the one with a gallon-cost low enough to make money.

Michigan Farmer Club List

THESE PRICES SUBJECT TO CHANGE WITHOUT NOTICE

EXPLANATION:—The figures in the first column represent the regular prices of other publications.

The figures in the second column give our prices for subscriptions to The Michigan Farmer and the other publication for one year.

The figures in the third column give the prices at which other publications can be added if more than one is wanted in combination with The Michigan Farmer.

EXAMPLE:—We will send The Michigan Farmer and Detroit Free Press, each one year for only \$4.50. If the same party wishes the McCall's Magazine it will cost 60c extra or \$5.10 for this combination.

ABOUT DAILY PAPERS:—Our rates on daily papers are made for subscribers living on R. F. D. routes or in towns where the daily does not maintain regular newsboy or carrier service. If in doubt send us your order and we will have it filled if possible. Our rates on Michigan daily papers apply to the State of Michigan only.

DAILY (6 a week)			
Detroit Free Press	\$1.00	\$4.50	\$3.75
Detroit Times	4.00	4.50	3.75
Detroit Journal	4.00	4.50	3.75
Grand Rapids Press	4.00	4.50	3.75
Grand Rapids Herald	4.00	4.50	3.75
Grand Rapids News	4.00	4.50	3.75
Saginaw News-Courier	4.00	4.50	3.75
Lansing State Journal	4.00	4.50	3.75
Lansing Capital News	4.00	4.50	3.75
Port Huron Times-Herald	5.00	5.50	4.75
Kalamazoo Gazette	4.00	4.50	3.75
Battle Creek Enquirer-News	4.00	4.50	3.75
Battle Creek Moon-Journal	4.00	4.50	3.75
Jackson Citizens' Patriot	4.00	4.50	3.75
Jackson News	4.00	4.50	3.75
Flint Journal	4.00	4.50	3.75
South Bend Indiana Tribune	5.00	5.50	4.75
Monroe News	3.00	3.50	3.00
Big Rapids Pioneer	3.00	3.50	2.75
Traverse City Record-Eagle	4.00	4.50	3.75
Terre Haute Indiana Star	4.00	4.00	3.75
Toledo Daily Blade	4.00	4.50	3.75
Toledo News-Bee	4.00	4.50	3.75
Toledo Times	4.00	4.50	3.75
Chicago Herald-Examiner	5.00	5.25	4.50
Chicago Daily Drovers' Journal	5.00	6.00	5.00
Chicago Tribune	7.50	7.50	7.00
TRI-WEEKLY (3 a week)			
New York, N. Y., World	1.00	1.65	75
SEMI-WEEKLY (2 a week)			
Chelsea Tribune	2.00	2.50	2.00
Mason County Enterprise	2.00	2.50	2.00
St. Louis, Mo., Globe-Democrat	50	1.35	40
WEEKLY			
Almont Herald	\$1.00	\$2.25	\$1.50
Bloomfield Advance	1.50	2.25	1.50
Cincinnati Enquirer	75	1.40	50
Courier-Tribune	1.00	2.00	1.00
Chesaning Argus	1.75	2.50	1.75
Charlotte Leader	1.50	2.25	1.50
Cedar Springs Liberal	1.50	2.25	1.50
Clare Courier	1.50	2.00	1.50
Elk Rapids Progress	2.00	2.25	1.50
Calumet Argus	1.50	2.00	1.50
Lenox Standard	1.50	2.00	1.50
Lowell Ledger and Alto Solo	2.00	2.75	2.00
Millington Herald	2.00	2.50	1.75
Missaukee Republican	1.50	2.00	1.50
Munising News	2.50	3.00	2.50
Manton Tribune-Record	2.00	2.50	1.75
Schoolcraft Express	1.50	2.00	1.25
Sanilac Republican	1.50	2.00	1.25
St. Louis Leader	2.00	2.75	2.00
Toledo Blade	75	1.40	50
Uby Courier	1.50	2.25	1.50
Woodland News	1.50	2.25	1.50
CATTLE, SHEEP, SWINE, POULTRY, ETC.			
American Bee Journal	1.50	\$2.00	\$1.25
American Fruit Grower	1.00	1.50	75
American Swineherd	1.00	1.50	65
American Sheep Breeder	1.00	1.75	85
American Thresherman & Farm Power	1.00	1.50	60
American Herford Journal	1.00	1.75	1.00
American Poultry Advocate	1.00	1.50	75
Bee Keeper's Review	1.00	1.75	85
Breeder's Gazette	1.50	2.00	1.10
Chester White Journal	1.00	1.60	70
Cloverland Magazine	1.00	1.50	75
Corn Belt Farmer	50	1.25	30
Everybody's Poultry Magazine	60	1.30	35
Farm Mechanics	1.05	1.50	75
Fruit Belt	50	1.25	30
Game Breeder	2.00	2.00	1.00
Garden Magazine	3.00	3.00	3.00
Gleanings in Bee Culture	1.00	1.85	90
Guernsey Breeder's Journal	2.00	2.60	1.75
Hoar's Dairyman	1.00	1.75	80
Holstein Friesian Register	1.00	1.85	90
Inland Poultry Journal	1.00	1.50	60
International Plymouth Rock	50	1.25	30
Jersey Bulletin & Jersey World	2.00	2.60	1.75
Market Grower's Journal	1.50	2.00	1.10
O. I. C. Swine Breeder's Guide	50	1.25	35
Pet Stock Jour., Hares & Rabbits	1.00	1.50	60
Potato Magazine	50	1.25	30
Poultry Guide	1.00	1.50	60
Poultry Breeder	50	1.25	30
Poultry Item	1.00	1.50	60
Poultry Keeper	50	1.25	35
Poultry Success	1.00	1.50	50
Poultry Tribune	1.00	1.50	75
Power Farming	1.00	1.50	60
Rabbit & Poultry Journal	60	1.30	30
Reliable Poultry Journal	1.00	1.60	70
Southern Fruit Grower	50	1.25	35
Swine Breeder's Guide	50	1.25	35
Swine World	1.00	1.50	60
Tractor & Gas Engine Review	1.00	1.50	60
HOUSEHOLD MAGAZINES, ETC.			
Adventure	\$6.00	\$6.15	\$6.00
Ainslee's Magazine	2.00	2.75	2.00
All Outdoors	2.50	3.00	2.25
Argosy All-Story Weekly	4.00	4.60	3.75
American Woman	50	1.25	35
American Boy	2.00	2.60	1.75
American Builder	2.00	2.00	1.50
American Cookery	1.50	2.00	1.10
American Magazine	2.50	3.00	2.25
Boy's Life	2.00	2.35	2.00
Boy's Magazine	1.50	1.75	1.00
Brain Power	3.00	2.65	1.75
Commonwealth	2.00	2.00	1.25
Century Magazine	4.00	4.25	3.50
Christian Standard	2.00	2.50	1.65
Christian Endeavor World	2.00	1.75	1.35
Christian Herald	2.00	2.25	1.35
Collier's Weekly	2.50	2.75	2.00
Commoner (Bryan's)	1.00	1.50	75
Cosmopolitan	3.00	3.00	2.50
Country Life	5.00	5.00	4.50
Current Opinion	4.00	4.00	3.50
Current Events	4.00	1.50	50
Delineator	2.50	3.00	2.25
Designer & Woman's Magazine	2.00	2.50	1.75
Detective Story Magazine Weekly	6.00	6.40	5.50
Educational Review	3.00	3.50	2.75
Elude	2.00	2.50	1.75
Everybody's Magazine	2.50	3.00	2.10
Every Child's Magazine	1.50	1.60	75
Film Fun	2.00	2.15	1.25
Film Story Magazine	3.00	3.70	3.00
Forest & Stream	3.00	3.00	3.00
Good Stories	25	1.15	20
Gentlewoman	20	1.15	20
Good Housekeeping	2.50	2.65	1.75
Harper's Bazaar	4.00	3.75	3.50
Hearst's Magazine	3.00	3.00	2.50
Household Journal	25	1.20	20
Hunter, Trader & Trapper	2.00	2.40	1.50
Illustrated World	3.00	3.25	2.50
Independent Weekly Review	4.00	4.25	3.50
Judge's Weekly	7.00	7.50	6.50
Junior Instructor	2.50	2.50	1.75
Leslie's Weekly	7.00	6.50	5.00
Love Story Magazine	3.00	3.70	2.75
Life	5.00	5.25	4.50
Literary Digest	4.00	4.00	3.90
Little Folk's Magazine	2.00	2.00	1.25
McCall's Magazine	3.00	3.00	2.50
McClure's Magazine	1.65	2.25	1.30
Metropolitan	3.00	3.00	2.75
Modern Priscilla	2.00	2.00	1.45
Mother's Magazine & Home Life	25	1.15	20
Motor Magazine	4.00	3.75	3.50
Motor Boating	3.00	3.00	2.50
Munsey's Magazine	3.00	3.00	2.80
National Sportsman	1.00	1.50	65
Oil Field Engineering	2.00	2.20	1.50
Outdoor Life	2.00	2.50	1.75
Outing	4.00	4.00	3.50
Outlook	5.00	5.25	5.00
Outer's Recreation	2.50	2.50	1.85
Pathfinder	3.00	3.00	2.50
People's Favorite Magazine	4.00	4.50	3.75
People's Home Journal	1.25	1.75	95
Physical Culture Magazine	3.00	2.65	2.00
People's Popular Monthly	35	1.20	20
Pictorial Review	2.50	3.00	2.25
Picture Play Magazine	2.00	2.70	1.80
Popular Magazine	4.00	4.50	3.75
Popular Science Monthly	3.00	3.25	2.50
Presbyterian Banner	2.50	3.00	2.60
Review of Reviews	4.00	3.50	2.75
St. Nicholas	4.00	4.25	3.50
School World	50	1.35	40
Scientific American	4.00	4.50	4.00
Scribner's Magazine	4.00	3.75	3.50
Short Stories	5.00	5.00	4.50
Smith's Magazine	2.00	2.70	1.75
Sunday School Times	2.00	2.50	1.75
Success Magazine	2.50	2.35	2.00
Today's Housewife	1.00	1.50	60
Top Notch Magazine	4.00	4.50	3.75
Travel Magazine	4.00	3.60	3.00
True Story Magazine	3.00	2.65	1.75
United Presbyterian	2.50	3.25	2.50
Violinist	2.00	2.25	1.50
Western Story Magazine	6.00	6.40	5.50
Woman's Home Companion	2.00	2.50	1.75
Woman's World	50	1.30	35
World's Work	4.00	4.00	3.75
Wide World	2.00	2.80	2.00
Youth's Companion	2.50	3.00	2.00

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Leghorns, Anconas, Rocks, Reds, and other heavy breeds. Quality of Chicks and safe arrival guaranteed. It is time now to look up your chicks for next season; the chick business is going to be good.

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Postage PAID. 95% live arrival guaranteed. FREE feed with each order. 40 breeds chicks, 4 breeds ducklings. Select and Exhibition grades. A hatch every week all year. Catalogue free. Stamps appreciated. NABOB HATCHERIES, Gambier, Ohio

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Barred Rock Cockerels Bred from great layers Bargain prices now. W. C. COFFMAN, R. 3, Benton Harbor, Mich.

Barred Plymouth Rock cockerels, pullets, and yearling hens. 200 egg laying strain. Prices reasonable. Mrs. H. P. Schulze, Laingsburg, Mich.

BARRED Rock Cockerels, Hill's heavy laying strain. Deep, narrow barring. Large birds \$4 and \$5 each. Lucian Hill, R. 3, Tekonsha, Mich.

Bantam Roosters and Hens, fine stock \$2.00 per pair, immediate shipment. Cash with order. Henry O. Bennett, R. 2, Grand Rapids, Mich.

Cockerels and pullets for sale from M. A. C. Round-up champions, vigor fine, range raised. \$5.00. Chas. H. Wright, Jones, Mich.

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Choice White Wyandottes cockerels and pullets for sale, cockerels at \$4 each. M. L. MOATS, Prescott, Mich.

Top Quality Cockerels Minorcas, Houdans, Rocks, Reds, Orpingtons, Spanish. Tyron Poultry Farm, Ponton, Mich.

REDUCED PRICES WHITE LEGHORNS FREE LAY 255 to 301 eggs per year. *Winners at 50 shows. Chicks, eggs, pullets, hens and males shipped C.O.D. at low prices. Write today for catalog and complete information to the World's Largest Leghorn Farms. GEO. B. FERRIS, 334 UNION, GRAND RAPIDS, MICH.

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Whittaker's R. I. Reds Michigan's Greatest Color and Egg strain Both Combs. Write for free catalog and our new proposition in regard to good breeding cockerels. INTERLAKES FARM, Box 39, Lawrence, Mich.

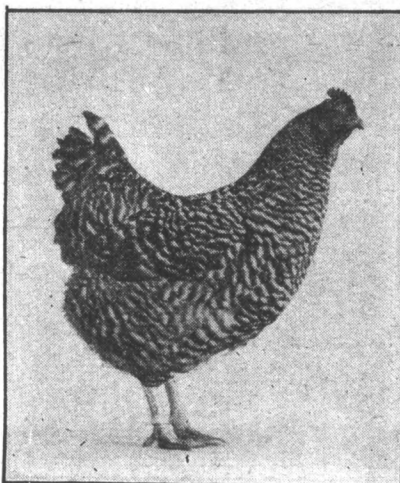
WHITE WYANDOTTES 207 egg average; cockerels \$5 each. 3 for \$14, 6 for \$25. FRANK DeLONG, R. 3, Three Rivers, Mich.

Additional Poultry Ads. on Page 443

A Few Poultry Pointers

By R. G. Kirby

A STANDARD-BRED poultry registry association has been organized for the registration of poultry having records as prize winners or egg producers. Undoubtedly we will soon hear much more about registered poultry. However, the general farmer will not be apt to register birds in his flocks of poultry in the same manner as he registers dairy cattle. It will be more a business of the specialty breeder who is to supply foundation stock to other poultrymen. The registration of poultry in large numbers seems rather complicated and until this date it has never been considered practical by many poultrymen and probably the major part of the pure-bred poultry



Mary Ann's Mother who Laid 267 Eggs in a Year.

flocks will not be registered for some time to come.

When feeding milk to poultry it pays to use earthen crocks instead of the shallow pans which are easily tipped over and tracked full of dirt. The first bird that steps on the brim of a small pan places the milk on the ground and the poultryman cannot afford to have any of the feed wasted, with eggs at the present price. If the milk crocks are placed on small wooden stands in the poultry house they will not become filled with litter when the birds are working for their scratch grain.

Poultry meat is a by-product on most farms. The farm flock is supposed to lay enough eggs to satisfy the family and provide a balance to help out with the grocery bill, but when the birds are sold as meat they are turned off without much knowledge as to the cost of production. It is necessary to keep track of the feed that the birds use and know if they are paying a profit. There is no reason why poultry meat should not be raised at a profit the same as cattle and hogs. Of course, the birds pick up much waste material around the farm, but they also eat a large quantity of grain. When broilers, roasters or capons are a sideline on the farm it pays to charge them every cent of their feed bill and then know if they are a good business venture. It will be a bright day for the poultry interests of the country when all farmers can present figures on the cost of producing poultry meat. It will mean that many flocks will grow smaller in a short time and many will grow larger but it will place poultry raising on a more business-like plane than ever before.

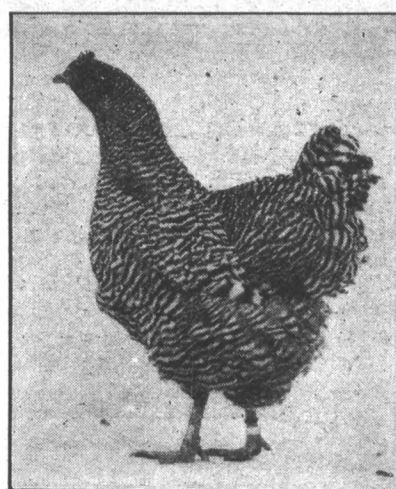
Artificial lights have seemed to bring wonderful results with some poultry flocks and they are being considered more practical every winter. Of course, the lights are only a factor in winter egg production. The conditions of feeding, housing and breeding must be ideal. Then the lights increase the number of hours per day

that the ideal housing and feeding can be enjoyed by the birds. The result has been an increased egg production in some flocks at a comparatively small cost.

The jungle fowl lived in the south where the days consisted of twelve hours of day and twelve hours of night, or approximated that amount. This bird did not have to stand the storms such as exist in the north during several months of winter and she did not endure long winter nights. Friends of artificial lighting state that the system helps to bring more natural conditions into the poultry house. Anyway, a scheme that was considered a joke several years ago is now regarded with respect. A twelve or fourteen hour period of light is considered the best for the health and laying ability of the hens. More light is harmful. At least there are several methods of lighting poultry houses that do not cost much money and more poultrymen with well-bred flocks are trying the experiment each year.

Some manufacturers of poultry equipment are especially urging their customers to place orders for equipment early. Of course, it is natural for them to desire early orders. But it is just common sense to plan the poultry operations for next spring and do it now. Then place the orders so that the goods will be on hand long before they are needed. Nothing is more discouraging than a few hundred eggs growing stale while waiting for an incubator, or a few hundred chicks yelping for the brooder when freight agent reports, "Nothing here yet."

In lining up the breeders for next year it pays to emphasize both egg production and some of the points in the Standard of Perfection. Buyers of poultry like their birds to possess many of the points which distinguish the breed. A Barred Rock hen might be a fine layer but if she looked like a cull from a scrub flock most buyers would be prejudiced against her. If she was underweight and shaped more like a Leghorn than a Plymouth Rock she could scarcely be called a good breeder. We need high egg produc-



Mary Ann II of M. A. C., who Laid 302 Eggs in 355 Days.

tion but it is possible to combine laying ability with good-looking birds. They need not be first prize winners but they should have the marks and general type of the breed that they represent.

A RECORD EGG PRODUCER.

MARY ANN II, a modest little Barred Plymouth Rock hen owned by the Michigan Agricultural College, came within an ace last week of breaking the world's yearly laying record of 303 eggs for her particular breed. Mary reached the 302 mark, but the

early November snow storm forced some shifts in the college hen coop and she was unable to produce the necessary egg which would have tied the record. She is the thirty-fourth "300-egg hen" in America. The world's record for any breed is 310.

Mary's performance really was 302 eggs in 355 days. Hatched May 12, 1920, she began laying on November 15 following, and deposited her last egg for the year on the fourth of this month.

Although in appearance she is very commonplace, her remarkable ability is scarcely an accident, for she is the product of specialized breeding. Her mother, Mary Ann I, laid 267 eggs in a year and she has four sisters, all of whom produced more than 200 eggs in the same length of time.

Mary Ann II proved herself a veritable egg-laying machine during the year. Averaging two and one-eighth ounces each, the eggs totaled 40.1 pounds in weight. Her average daily ration was four ounces, or a total of 92.5 pounds. Thus forty-three per cent of her feed went into eggs.—H.

HANDY WINTERING PLANS.

I NEVER have found it necessary to go to much extra trouble to keep the bees safely over winter, and my winter killing has been as light as the average where much more care was taken. The great essential is to have the hives insulated pretty well and protected from storms, and the easier this can be done the better.

In very severe climates the cellar of the well-made packing case may prove profitable, but I do not think it will ordinarily. Cellars are all right but costly, and if we keep the bees strong and in good condition without them I see no advantage in going to this expense. Even where packing cases are used no extra care need be given them but any case made tight enough to keep mice out of the packing, and water from leaking down into it, will serve.

Good insulation over, around, and under should be provided. I consider newspapers about the best insulation I can get. I do not stint the thicknesses of papers used, and to hold them in place I make a water-tight covering either of oilcloth or rubber roofing. Good rubber roofing is best and can be used for many years. First a sheet of this is placed under the hive with some newspapers between it and the bottom board. These are turned up at the sides and back. Corners of the rubber roofing are cut to make it handle nicely. Over the whole hive newspapers are spread in several thicknesses and lapped, and the rubber roofing cut to fit is tacked down over all, extending outside the part of the bottom turned up. Nearly all beekeepers put cloth over the frames under the cover to absorb any moisture from the inside and this is a good plan always. While I never use cloth in summer I do in winter. The warm air in the hive will be condensed some when it touches the hive cover of wood if the cloth is not under it.

Protection from hard winter winds is just as important as the covering, and no ice should be allowed to form over the entrances. Snow can bury the hives with no danger, but ice is different. A windbreak on the north and west will break the force of cold storms and save the bees from suffering nearly so much. If you cannot have the hives protected by a windbreak of trees a high board fence should be erected.—AGNES HILCO.

Hog Feeding Day at Ames

(Continued from page 519).

The addition of a fairly complete mixture, consisting in pounds of salt thirty, spent bone black twenty-five, wood ashes twelve, sulphur ten, limestone ten, Glauber's salts 5.7, epsom salts five, copperas two, potassium iodide .3, during the summer pasturage season did not prove advantageous either in gains made or growth of the gilts as determined by measurement.

However, this test is being continued, and these gilts will be carried through the coming year on the same rations they have received during the summer, one group without minerals, and one group with minerals, with tankage as the main supplement, and on such good pastures as we used in this test.

In addition of the fairly complete mineral mixture did not prove beneficial so far as can be judged at the present time.

Feeding Minerals in Dry Lot.

Generally speaking, pigs in dry lot are more in need of minerals than those on pasture. In one test there was involved ten lots of ten pigs each, these being fed from shortly after weaning time, when they weighed forty-one pounds, for a period of 110 days. They received a ration of corn self-fed plus a supplemental mixture self-fed, consisting of blood meal forty parts, corn oil cake thirty parts, linseed oil meal twenty parts, and peanut meal ten parts. The addition of a mixture consisting of equal parts by weight of common salt, high calcium carbonate limestone and finely ground raw bone meal, made the best showing.

Where no minerals were fed the gain was 1.17 pounds per pig daily, but where the above mixture was allowed it was 1.37 pounds. The feed required without minerals was 405 pounds as compared to 365 pounds for the mineral-fed group. The group receiving the fairly complete mixture gained 1.26 pounds at an outlay of 375 pounds of feed for 100 pounds gain. Everything considered, economy and all, a mixture of common salt, limestone and bone meal in this test showed up the best.

Results with Cottonseed Meal Feeding.

In order to determine the toxic effects of cottonseed meal when fed as a part of the ration, an experiment involving seven groups of seven pigs each, they weighing fifty-five pounds at the start of the experiment, was started, and records so far as available for ninety days. The ration used was shelled corn self-fed plus a mixture of eighty parts cottonseed meal, and twenty parts blood meal, self-fed. The other groups received the same ration with the exception that different mineral mixtures were added.

These pigs made remarkable gains, there were no deaths, nor any symptoms indicating that cottonseed meal had poisonous effects. The pigs ate close to one pound of cottonseed meal daily on the average, the balance being corn and blood meal, the pigs consuming daily between five and six pounds of the total feed. The feed requirement for 100 pounds gain ranged from 362 pounds to 472 pounds. The mineral group making the best showing received a mixture of common salt 33.3 pounds, limestone 33.3 pounds, bone meal 33.3 pounds and potassium iodide .1 pound. Where sulphur was added to the above mixture along with potassium chloride, the results were almost as good.

Briefly, the Check group gained 1.44 pounds, whereas the best mineral group gained 1.61 pounds. The Check group required 386 pounds of feed for 100 pounds gain, costing \$3.98, whereas the best mineral group required 3.62 pounds, this costing \$3.82.

These cottonseed meal experiments will be continued, but it appears that where small amounts of cottonseed meal were fed, the danger from poison was very slight, as contrasted with the southern method, where most of the ration is made up of this meal. Then, too, we must not fail to remember that cottonseed meal varies in toxicity, depending upon the particular shipment used.

Some Basal Considerations for Economical Pork Production.

It was emphasized again and again that home-grown feeds, particularly corn, oats and barley, are the premier basal feeds under mid-west conditions for pork production. However, these feeds must be properly balanced; tankage was shown to be an economical balancer. Milk and milk products were, of course, emphasized, as were pastures in proper season.

The use of purchased mixed feeds has been tried out at this station in contrast with our home-grown basal corn and purchased tankage, but in all tests it was pretty clearly and definitely shown that the farmer had better depend upon what he has, and not ship in his basal feed. He could buy supplements to advantage but not mixed feeds that supply the whole ration. This doesn't mean to say that mixed feeds are not good and will not do the nutritional business, because a good many are good, and provide a good feed, but it does mean that the question of price and profit must always be kept uppermost.

Successful Fall Pig Production.

Essential points in the production of fall pigs were emphasized as follows:

1. See to it that the sows during the summer time, while carrying their young in utero, are given an abundance of exercise on good pasture.
2. Feed these sows well.
3. Don't have the sows farrow too early nor too late.
4. Let the sows farrow out on pasture if possible.
5. Feed the suckling sows well.
6. Have a warm place for the fall pigs to sleep and rest after they are taken into winter quarters.
7. Keep their beds dry by changing them frequently.
8. See that the pigs get ventilation.
9. Feed the pigs inside where it is warm. Do not make them go out into the cold to eat. If you must make them go out for anything, make them go out to get their water.
10. Keep them sanitary. Use crude oil to get rid of the lice, and santolin and calomel to get rid of the worms.
11. Keep open water before the pigs and keep the water from freezing.
12. It is not necessary that the pigs run over the whole farm.
13. Feed the pigs abundantly and well. Such rations as these are splendid:

- A. Shelled corn self-fed plus meat meal tankage self-fed plus salt self-fed.
- B. Shelled corn self-fed plus buttermilk at the rate of four or five pounds to one of grain when pigs weigh fifty to one hundred pounds; three to three and one-half pounds as they go from 100 to 150; two to three pounds from 150 to 200; one to two pounds from 200 to 250; and from one-quarter to one pound after they pass the 250-pound mark.

Fall pigs that grow and fatten in cold weather can easily be made to reach 250 to 300 pounds when eight months of age. They go on the good markets of April, the highest market in the year outside of September, and being marketed in April, as they can be, insures a happy income at a time when ordinarily there is not much produce to be sold from the average farm which does not engage in the live stock business.

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Francisco Farm Shorthorns and BIG TYPE POLAND CHINAS
Now offering:—Three bulls ready for service. Mastodon, Clansman, Emancipator blood in gilts bred for spring farrow. See them.
POPE BROS. CO., Mt. Pleasant, Mich.

Scotch Topped Shorthorns Three cows, two with calves at side, yearling bull. These cattle are of good type, well bred, and in excellent breeding condition. Have sold farm and must sell. V. M. Shoemith, East Lansing, Mich.

Shorthorns. Bull calves for sale from the best milking blood obtainable.
ROSEMARY FARMS, Williamston, Mich.

BUY SHORTHORNS of Central Michigan Breeders' Association at farmers' prices. Write for sale list to M. E. Miller, Sec'y, Greenville, Mich.

Milking Shorthorns, accredited herds, males and females, low prices. Davidson and Hall, Beland and Beland, Tecumseh, Mich.

For Sale Scotch and Scotch Topped males and dress Northwestern Michigan Shorthorn Breeders' Ass'n. Roy F. Zimmerman, Sec'y, Traverse City, Mich.

Shorthorns at bargains. Cows and young bulls ready for use. Spring calves, either sex; also Poland China pigs. Robert Neve, Pierson, Mich.

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.

Stifle Lameness.—My five-year-old cow started to limp slightly on right hind leg and kept gradually growing worse until she quit stepping on it entirely. I fail to find any sore spot, but stifle is swollen and occasionally she jerks up leg. R. J. G. Rodney, Mich.—Apply equal parts turpentine, aqua ammonia and raw linseed oil to stifle once a day.

Obstructed Quarter and Teat.—Have a cow six years old with bunch in the upper part of teat and lower portion of one-quarter of udder which obstructs milk flow. I used tube for six weeks, teat became sore, discontinued milking, now udder fills, but I am unable to draw milk. When bunch is squeezed it hurts her. W. E. J., Harbor Beach, Mich.—Apply iodine ointment to lower portion of udder daily; if this treatment fails have obstruction cut out when she is dry.

Heart Disease.—I recently lost two five-month-old pigs. They seemed to be well, came to trough and ate heartily, less than one hour after commenced to squeal and in less than five minutes were dead. They have been running in garden where some cucumbers and green tomatoes grew; their feed was entirely of grass and separated milk, no grain. B. M. G., River Junction, Mich.—Your pigs died the result of what is called a leaky heart and there is no remedy for it.

Hairless Pigs.—I have a registered O. I. C. sow three years old that has always raised good litters of pigs before, but this time she had eleven hairless pigs and their skin was purple color; they were well developed in every other way; she farrowed when due. The eleven pigs all died within thirty-six hours after birth. Would it be safe for me to keep this sow for breeding purposes any longer? J. F. C., Cass City, Mich.—The cause of hairless pigs is not definitely known, but it is true when the brood sow is fed sufficient mineral matter, and some iodine during pregnancy she seldom has hairless pigs. The brood sow should be fed a rather bulky ration in the form of succulent roots, alfalfa hay or any other feed that may furnish the required matter. Abundant exercise is necessary for the brood sow, besides she should be kept in a roomy place. A varied ration should be offered to her, such as limestone, bonemeal, rock phosphate and common salt. As you know, these substances contain considerable mineral matter which is essential to the welfare of the sow and her litter. If you keep your sow and breed her again, follow my instructions. Had you given your sow five-grain doses of potassium iodide every day or two during gestation period she might have given birth to a well-haired healthy litter.

Stomach Worms.—Have lost several sheep lately; a swelling appears between the angle of lower jaw, the animal becomes emaciated and usually dies. Some of the sick sheep lose vision or have impaired vision. H. S. S., Midland, Mich.—Keep all the food away from those to be treated for a whole day, in the evening give each sheep or lamb one-half ounce of gasoline and raw linseed oil to which you may add a teaspoon of sweet milk. Repeat this dose every evening for two or three evenings. Feed them a few hours after giving each dose of medicine. A change of pasture is perhaps needed.

Rheumatism.—We have an Angora cat seven years old, that is a pet; is very lame, lays around and suffers some pain. Is fed meat and milk. His food has consisted of milk, raw beef, fish and a few potatoes. H. W. H., Greenville, Mich.—Give cat one grain of sodium salicylate at a dose three times a day. Apply extract of witch hazel to sore legs twice a day.

Nodular Disease.—Have some sheep that are not doing well. I killed one and found many little bunches in the bowels, but no worms in stomach; they also scour some. J. H. B., Hale, Mich.—Esophagostoma Columbianum is the name of this minute parasite that causes "nodular disease," and for which there is no known remedy. Prevention is the procedure for which to strive, and this is none too well understood. High, dry pasture, or a dry clean place and plenty of good feed is about all you can do for them.

Dairy Farming

BULL ASSOCIATIONS IN MICHIGAN.

RECORDS show that there are in the state seven bull associations which were organized in the years 1909 to 1916 inclusive. The oldest of these is the Leer Association in Alpena county. Splendid service has been rendered the members of that organization. The exhibit at the state fair last fall was full of suggestion and showed real accomplishment in the way of improving the animals in the herds of those who joined to provide themselves with good sires.

These seven associations have 212 members. The greatest number of bulls owned by one association is eight. In all thirty bulls are owned by the seven organizations. The 212 members also own eighty-nine pure-bred cows.

THE TREND OF DAIRY STANDARDS.

THE trend of dairy stock standards in Michigan is on the down grade and community breeding is vital for preservation of types. D. D. Aitken, of Flint, former president of the National Holstein-Friesian Association, declared at a meeting of the Detroit City Farmers' Club in the Detroit Board of Commerce recently.

Mr. Aitken gave as reasons for this statement the facts that the average breeder possesses only a small herd and cannot afford to buy or keep a real high type herd sire, and as a result oftentimes high-class cows are bred to inferior quality bulls, the process continuing down the next generation. He also called attention to the way breeds are scattered over the state.

"People are trying to work out breeding as individuals and according to their own ideals. Most breeders have no conception of marketing at all. Breeders of any standard type are so scattered that if anyone asked where a carload of any one registered type could be obtained, I do not know where he would get the information. The dairy industry will be on a firmer and more prosperous basis as soon as communities see that the best results are bound to come from uniformity in production and practice community breeding through the importation of a really high-grade sire, maintained by the community. The tendency of all stock in that community then will be up instead of down and buyers of the particular breed specialized in will be attracted. There should be at least one hundred and fifty cows in any community that attempts to acquire a high-grade sire on this cooperative or community basis."

WINTER DAIRYING.

WHILE it is natural for cows to freshen in the spring it cannot be said to be most profitable, for in the flush time we always find a lower price, while farm work is then most pressing. More than that, a cow will produce from fifteen to twenty-five per cent more by freshening in the fall. Especially is this true if she is given good care through the winter. The cow coming fresh in the fall will be a profitable milker during the season of the year when dairy products sell at the best price. She will go on grass in the early spring and will again be flushed to a profitable production for April, May and June. When pastures become dry and short and the flies most troublesome, she will be dry.

Dairy products are high compared with other farm produce, and the price will undoubtedly continue good until next June. To get the greatest return from the cows they should have good housing and care during the winter months. It will well pay any cowkeeper to provide modern equipment for his stock. Not only will he save in time and labor, but through giving better comfort to his animals, their production will be increased.

The dairy cow has proven the farmer's best friend during these trying times. It never before was so necessary to use good cows, give them good care in modern stables, and take advantage of every opportunity to increase their production.—A. L. H.

COW TESTERS IN DEMAND.

TO meet the increasing demand for trained cow testers, a special two weeks' course in this subject will be given at M. A. C. from December 5 to 16, it is announced. This field is bound to widen as the number of cow-testing associations in the state is increased, according to Prof. O. E. Reed, head of the dairy husbandry department. A recent evidence of the spread of the movement is the fact that in Allegan county alone four new associations were formed in connection with the "milk and alfalfa" campaign put on there.—H.

FOUND TEST BARN PRACTICAL.

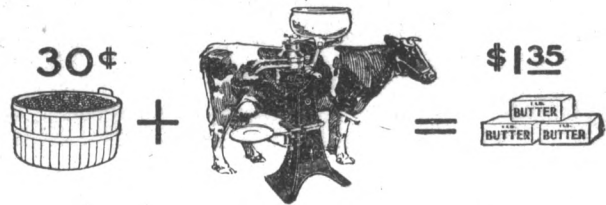
DECENTLY I visited a large dairy where some wonderful records were being made. I was pleased to find the test barn well filled with a splendid lot of cows and heifers. In questioning the owner concerning the economy of such a barn, he informed me that it was one of the most profitable buildings he had ever put up.

The barn was simple in structure, but built with the idea of making it warm and easy to ventilate. Steel pens on both sides in two long rows furnished room for some twenty-four head. Each pen was supplied with a water bowl, manger and cement floor, with drainage to one end. A feed carrier through the center furnished an easy means of bringing in silage and grain, while a litter carrier at each side made it easy and convenient to remove the manure.

To construct such a barn one must know definitely what cow comfort means. Cows do not require fancy and expensive buildings. They are very practical in their tastes. They do want, however, freedom in their stall and a pen permitting them to move about at will. They like their food clean and at regular periods. They like a supply of fresh clean water always at hand. They prefer a light, well ventilated stable to one that is dark and poorly ventilated. These cow requirements demand modern equipment, which is not only to the cows' liking but also saves much hard work and time on the part of the caretaker.—A. H.

CREAMERY MEN GET TOGETHER.

SIXTY members of the Michigan Creamery and Owners' Association held their quarterly meeting in Allegan this year. Among the speakers were Ernest Burnham, Prof. O. T. Goodwin of the Michigan Agricultural College; S. P. Aldrich, of Grand Rapids; Roscoe A. Page, of Zeeland; Rev. S. E. Kelley, of Allegan, and J. G. Prestage, of Allegan county. The modern plant of Overton Creamery Company was inspected by the visitors.—R.



A Bushel of Corn Makes 3 lbs. of Butter-Fat

A good cow and a De Laval Cream Separator will change a bushel of corn or its equivalent, worth about 30 cents, into 3 pounds of butter-fat worth from \$1.00 to \$1.50.

Corn and other feeds are a drug on the market, while butter is scarce. There is less butter in storage in the large markets than there ordinarily is at this season of the year. Cream is the safest, surest and most profitable of all crops, and the De Laval Separator will make you still more profit. It skims cleaner and lasts longer than any other. It has won 1,091 grand and first prizes at every important exposition and fair the world over. There are over 2,500,000 in daily use—ten times as many as its nearest competitor.

When it comes to buying a cream separator, De Laval stands supreme. Write for full information.

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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.

Milking Shorthorns of best Bates breeding, bulls, cows and heifers for sale. E. H. KURTZ, Mason, Mich.

Reg. Red Polled Cattle, our herd headed by Famous Charmer, Grand Champion Michigan State Fair, Under State and Federal supervision, no cattle for sale at present. Westbrook Bros., Ionia, Mich.

HOGS

BERKSHIRES

Offer for immediate sale a few young boars suitable for use, at very reasonable prices. Also small pigs, gilts open or bred. Breeding of the best. C. C. Corey, 1303 ajestic Bldg., Detroit, Mich.

EVERY'S BIG BERKSHIRES

Choice boars. Sows bred or open. Satisfaction guaranteed. W. H. EVERY, Manchester, Mich.

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.

Brookwater Duroc Jerseys

SPRING BOARS sired by Panama Special 55th, Big Bone Giant Sensation and Brookwater Demonstration. The best of the breed. Order one by mail or come to the farm. You will like them when you see them. Prices reasonable.

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

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

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.

For Sale Durocs of the big heavy boned type. Write your wants. CHAS. BRAY, Okemos, Mich.

Woodlawn Farm Duroc hogs are from select breeding stock, well mated for size, type and color. Herd boars, sows and pigs, will ship C.O.D. and furnish Reg. certificate. W. E. Bartley, Alma, Mich.

DUROC SOWS and gilts bred to Jacks Cherry Orion King No. 169259 Son of the \$10,000 boar owned by Longview Farm, Le Summit, Mo. also young boars ready for service out of good sows. Apply THE JENNINGS FARM, Bailey, Mich.

DUROC JERSEYS

spring boars that will improve your hogs, of Orion Cherry King, Col. and Pathfinder breeding, at reasonable prices. Write us your wants. Bred sows and gilts all sold. W. C. TAYLOR, Ionia, Mich.

DUROC JERSEYS Bred gilts all sold. Choice spring boars by Brookwater Demonstration. RUSH BROS., Oakwood Farm, Romeo, Mich.

WEST View Duroc Farm offers spring boars from Home Farm Tipsey 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.

Additional Stock Ads on Page 547

LATEST MARKET REPORTS

GRAIN QUOTATIONS

Tuesday, November 29.

Wheat.

Detroit.—Cash No. 2 red \$1.26; No. 2 mixed and No. 2 white \$1.23.
Chicago.—No sales reported.
Toledo.—Cash No. 2 red \$1.24½; December \$1.24½.

Corn.

Detroit.—Old Cash No. 2 yellow 59c; No. 3 yellow 57c; No. 4, 54c; new Yellow, Cash No. 3, 54c; No. 4, 52c.
Chicago.—No. 2 mixed 48½@49½c; No. 2 yellow 48½@49½c.

Oats.

Detroit.—Cash No. 2 white 40c; No. 3 white 37c; No. 4, 32@34c.
Chicago.—No. 2 white 35@35½c; No. 3 white 32¼@34¼c.

Beans.

Detroit.—Immediate and prompt shipment \$4.20 per cwt.

Chicago.—Choice to fancy hand-picked Michigan beans at \$5@5.25; red kidney beans \$7.50@8.

New York.—The market is steady. Choice pea \$5.25@5.30; do medium at \$4.75@5; kidney \$8.

Rye.

Detroit.—Cash No. 2 85c.
Chicago.—86c.
Toledo.—Cash 86c.

Seeds.

Detroit.—Prime red clover, cash at \$12.50; alsike \$11; timothy \$3.05.
Toledo.—Prime red clover at \$12.50; alsike \$10.50@10.80; timothy \$3.

Hay.

Detroit.—No. 1 timothy at \$19@20; standard and light mixed at \$18@19; No. 2 timothy \$17@18; No. 1 clover mixed \$16@17; rye straw \$13@13.50; wheat and oat straw \$12@12.50 per ton in carlots.

Feeds.

Detroit.—Bran \$25; standard middlings \$24; cracked corn \$28@28.50 a ton in 100-lb. sacks.

WHEAT

It is generally believed that the United States has practically disposed of its exportable surplus of wheat if domestic requirements are equal to the amount considered normal by the grain trade. Domestic demand may not be up to the full amount commonly allowed for the twelve months. A second factor is the possibility of a revision in the crop estimate in the December report of the department of agriculture. Certain additions to the southwestern wheat acreage made public last spring have not yet been considered in official estimates. A large acreage in some parts of the south is going into winter in poor condition. The full extent of the damage will not be known until the government December report is published. News from this section may drop out as a market factor for a time during the winter but will return with increased importance next spring. Broomhall has increased his estimate of world's import requirements to 640,000,000 bushels and it is said that the non-European countries are taking wheat at a rate which, if continued for a year, will be twice as large as their average needs.

CORN

Corn prices have advanced six or seven cents a bushel from the low point of the season reached several weeks ago. Announcement of the plan of the War Finance Corporation to assist farmers to hold corn for one or more years in order to obtain higher prices is expected soon. Producers seem to have recovered from their selling panic evidently in the expectation that something will be done to help them out. Primary receipts are comparatively light and the advance in the last few weeks has not yet brought about a material increase in country offerings. It is still two or three weeks until the season of heavy receipts from the country usually begins and the almost impassable state of the roads in some of the principal farm surplus sections may have been a factor also.

OATS

Demand for oats is light and the visible supply is large. Buyers may become more anxious when the visible begins to decrease. Canada has a large crop of heavyweight oats this

year, her yield being estimated at 510,000,000 bushels, or 21,000,000 bushels less than last year.

SEEDS

Seed markets have been inactive for the last week or ten days. It is estimated that fifty per cent of the commercial supply of red clover seed from the 1921 crop had been sold by growers up to November 8. Only 15 per cent of the commercial surplus of timothy seed remained in the hands of farmers on November 8 according to reports to the department of agriculture. Seedsmen have not been aggressive buyers for the last two or three weeks but prices have been well maintained.

FEEDS

Cold weather stimulated demand for all kinds of feeds and has brought about a smart upturn especially in wheat feeds. Eastern markets have not responded fully to the advance elsewhere, and in general there is a disposition to go slow in buying at the present level. Supplies of all feeds are equal to probable demand.

HAY

Increased receipts and heavier loadings in surplus sections have weakened the hay markets while demand in the east and south, the chief consuming sections, is light.

POULTRY AND EGGS

Although receipts of eggs at the four leading cities are running larger than at this season last year, market supply has fallen off and prices have advanced. The fact that the final government report on cold storage holdings indicated much heavier consumption of eggs during October and that the carryover of storage eggs was lighter than the preliminary report had shown, was something of a factor. Poultry markets have been well supplied and prices remain weak.

Latest quotations were as follows: Detroit.—Fresh candled 48@58c per dozen. Poultry, hens 19@20c; roosters 12c; turkeys 35@38c; ducks 23@24c; geese 20@23c.

BUTTER

Holiday demand for butter, together with lighter receipts, reflecting a moderate decrease in production as a result of wintry weather restored firmness to butter markets last week. Chicago led the advance and for a time was ahead of New York but by the close of the week the firmness had become general and eastern markets were as high as or higher than Chicago. Attention has centered upon fresh receipts which were cheaper than storage butter early in the week so that the fresh butter was well cleaned up and only moderate withdrawals were made from cold storage.

Prices for 92-score fresh butter were as follows: Chicago 45½c; New York 45c. At Detroit fresh creamery in tubs is quoted at 37@39c.

POTATOES

Potato markets have been dull with demand and movement comparatively slow. Eastern sacked round whites are quoted at \$1.65 a hundred pounds at shipping points and at \$1.90@2.10 in eastern cities. Northern round whites f. o. b. Michigan shipping points are quoted at \$1.30@1.55 per hundred pounds sacked, and at \$1.50@1.75 on the Chicago market.

Live Stock Market Service

Wednesday, November 30.

DETROIT

Cattle.

Receipts 344. Market is slow but steady.
Best heavy steers \$ 6.00@ 6.75
Best handy wt bu steers 6.50@ 7.00
Mixed steers and heifers 5.00@ 5.50
Handy light butchers.... 4.50@ 5.25
Light butchers 3.25@ 4.25
Best cows 4.25@ 4.75
Butcher cows 3.25@ 4.00
Common cows 2.25@ 2.75
Canners 1.50@ 2.00
Best light weight bulls.. 4.25@ 4.50
Bologna bulls 3.25@ 4.00
Stock bulls 2.75@ 3.50
Feeders 5.50@ 6.00
Stockers 3.75@ 5.25
Milkers and springers.... 45@ 90

Veal Calves.

Receipts 875. Market is steady to strong.
Best \$11.00@11.50
Others 4.50@10.50

Sheep and Lambs.

Receipts 3,422. Lambs strong and sheep slow.
Best lambs \$ 10.50
Fair lambs 8.50@ 9.50
Light to common 5.75@ 7.25
Fair to good sheep 3.00@ 3.50
Culls and common 1.00@ 1.50

Hogs.

Receipts 2,493. Market steady to 5c higher.
Mixed hogs \$ 7.25
Pigs 7.75@ 8.00
Roughs 6.25

CHICAGO

Hogs.

Estimated receipts today are 20,000; holdover 12,754. Market steady to 5c higher. Bulk of sales at \$6.85@7.05; tops \$7.10; heavy 250 lbs up medium, good and choice \$6.90@7; medium 200 to 250 lbs medium, good and choice at \$6.90@7.05; light 150 to 200 lbs common, medium, good and choice \$6.90@7.10; light lights 130 to 150 lbs common, medium, good and choice \$6.95@7.10; heavy packing sows 250 lbs up smooth \$6.25@6.75; packing sows 200 lbs up rough \$6@6.35; pigs 130 lbs down medium, good and choice \$6.90@7.40.

Cattle.

Estimated receipts today are 7,000. Market is strong to 25c higher. Beef steers medium and heavy weight 1100

lbs up choice and prime \$9@11.25; do medium and good \$6@9.65; do common \$5@6; light weight 1100 lbs down good and choice \$8.65@11.25; do common and medium \$4.85@8.65; butcher cattle heifers common, medium, good and choice \$3.85@8.75; cows common, medium, good and choice \$3.50@6.50; bulls bologna and beef \$3.35@6; canners and cutters cows and heifers at \$2.60@3.50; do canner steers \$2.75@3.75; veal calves light and handy-weight medium, good and choice at \$7@9.50; feeder steers common, medium, good and choice at \$4.60@6.60; stocker steers common, medium, good and choice \$3.50@6.25; stocker cows and heifers common, medium, good and choice \$3.15@5.

Sheep and Lambs.

Estimated receipts today are 16,000. Market strong to 15c higher. Lambs 84 lbs down medium, good, choice and prime \$9@10.40; do culls and common at \$6.50@8.75; spring lambs medium, good, choice and prime \$6@8.75; ewes medium, good and choice at \$3@5.15; ewes cull and common at \$1.50@2.75; yearling wethers medium, good and choice \$7.15@8.60.

BUFFALO

Cattle.

Receipts three cars; market steady. Choice to prime shipping steers \$8@8.50; good to choice shipping steers \$7.25@8; light native yearlings, good quality \$8@9; best handy steers \$6.25@7; fair to good at \$5.50@6; handy steers and heifers \$5.25@6; western heifers at \$5.25@5.75; light Michigan butchering heifers \$4.50@5.50; best fat cows \$4@4.75; medium fair \$2.50@3.50; cutters \$2@2.50; canners \$1.50@1.85; best heavy bulls \$4@4.25; heavy bologna bulls at \$3.50@4.25; common bulls \$2.50@3; best feeders 700 to 800 lbs \$5.25@6; medium feeders \$4.50@5; stockers, good \$4@4.50; light common \$3@3.50; best milkers and springers \$8@100; mediums \$40@60. Calves, market steady; tops at \$13; fair to good \$7@9; grassers \$3.50@4.50.

Hogs.

Receipts 10 cars; market is strong. Heavy \$7.50@7.75; mixed and yorkers \$8; pigs \$8.50.

Sheep and Lambs.

Receipts 5 cars; steady; top lambs \$11.25; yearlings \$7@8.50; wethers at \$5@5.50; ewes \$4@4.50.

BEANS

Prices for choice hand-picked white beans f. o. b. Michigan shipping points are around \$4.35 per 100 pounds or a little lower than a week ago. Prices to growers for beans in the dirt are around \$4. Red kidneys hand-picked are bringing \$7. It is claimed that about fifty per cent of the crop has been moved already. Wholesale grocers are still trying to work down inventories to prepare for the first of the year and are only buying in small lots. Michigan seems to be the weakest market on the map as growers are still pressing sales and are unwilling or unable to wait until the trade is ready to take their product.

APPLES

The apple market has been steady during the past week although the movement is comparatively slow. A-2½ Baldwins are quoted at \$6.50@7.50 in consuming markets with but few sales reported at shipping points. Extra fancy boxed Jonathans are bringing \$1.75@2.75 per box in the consuming markets.

WOOL

After maintaining an upward trend for several months, foreign wool auctions have become reactionary in the last few days. In domestic wool markets prices have strengthened, due, it is said, to speculative buying on account of the tariff outlook, medium and low grades being especially benefited. Moderate quantities are being absorbed rather steadily by mills in spite of an unfavorable situation in the goods market and an acute scarcity of the best combing wools is expected later on. Consumption decreased rather steadily from month to month in the last half of 1920, reaching a level of only about 20,000,000 pounds during December, while this year consumption has been heaviest during the last quarter. It is expected that 1921 will not compare unfavorably with 1920 when final figures for the year are available.

DETROIT CITY MARKET

The produce market was quiet but steady. The supply was not large. Potatoes are being taken freely but onions are scarce and higher. Apples are in a fairly liberal supply but butter and eggs are firmer and higher. Shipped in stuff is quoted as follows: Cabbage \$1.25 per bu; potatoes \$3@3.50 per 150 lb. sack; apples \$2.50@3.25; onions \$5@5.50 per 100 lbs.

GRAND RAPIDS

Some of the potato men sense a firmer tone in the demand for tubers but they are not predicting any advance in prices. The prices paid to growers are 90c@1. Comparatively small quantities of beans are moving and the local price is \$3.50@3.75 for Michigan pea beans and \$5@5.50 for red kidney. Prime Michigan furs are in demand and the bidding of buyers is putting prices higher. Receipts of muskrats and skunk are good.

On the city market cabbage brings \$1.25@1.35 a bu; carrots \$1.25; beets \$1.20; dry onions \$2.20; parsnips at \$1.25; apples \$1.50@3.25; hay \$20@22 per ton.

Creamery butter is bringing 44c per pound, while No. 1 dairy is around 33c. Fresh candled eggs are quoted at 65c and storage at 39c. Michigan daisy cheese 24c.

No. 2 red wheat \$1.10; rye 65c; oats 42c; No. 2 yellow corn 62c; baled hay \$17 for No. 1 timothy and clover.

COMING LIVE STOCK SALES.

Holsteins.—Dec. 16, Dispersal Sale, Lakeside Dairy, Lake Odessa, Mich.
Draft Horse Sale.—Jan. 13, Michigan Agricultural College. R. S. Hudson, Secretary, Michigan Horse Breeders' Association.
Shorthorns.—Dec. 6, John Wallace, Lapeer, Mich.

We shall see in the future the standardization of things in agriculture that are unthought of now, and all to the advantage of agriculture.

Live stock that is fed heavily just before loading for market is not only likely to sicken and sometimes die in transit, but it seldom takes a good fill when it arrives on the market.

ANNUAL MEETING OF ASSOCIATION OF FARMERS' CLUBS.

REGULAR annual meeting of the State Association of Farmers' Clubs will be held in the senate chamber of the capitol building at Lansing on December 6-7. Every local club is urged to send at least two delegates to this annual meeting. The following excellent program has been arranged. All subjects are open for discussion. A welcome is extended to anyone interested in agriculture.

Tuesday, December 6—10:00 A. M. Registration—presentation of credentials—payment of dues—appointment of committees.

Afternoon 1:00 P. M. Music—Industrial School Chorus, Lansing. Invocation. Music—Industrial School Chorus, Lansing.

Report of Associational Secretary, Mrs. I. R. Johnson, Rushton. "What is the Farm Bureau Doing for the Farmer?" M. L. Noon, Jackson, President Jackson County Farm Bureau.

Reading—I. R. Johnson, Rushton. "The American Farm Home and Its Problems," Mary E. Sweeney, Dean of Home Economics, M. A. C. "Are we Getting Value Received for the Money Spent on Our Roads?" Edgar Burk, St. Johns.

Evening, 6:00 P. M. Banquet served by ladies of Baptist Church.

Toastmaster—W. A. Cutler, of Grass Lake. Round-table. President's address—Alfred Allen, Mason.

"A Real County Agent," C. V. Ballard, Jackson, County Agent, Jackson County.

"Woman's Opportunity," Mrs. Dora Stockman, Lansing, Member of State Board of Agriculture. "The Agricultural Outlook," Dean Shaw, M. A. C.

Music for the evening will be furnished by M. A. C. Wednesday, December 7—9:00 A. M. Music—M. R. Cutler, DeWitt. Invocation.

Question box conducted by Lee S. Noble, Oxford, Vice-President of the association.

"The County Nurse," Dr. E. E. Pierce, State Sanatorium, Howell. Music—M. R. Cutler, DeWitt.

"The Federated Committee," Alfred Mason, member of federated committee.

Treasurer's report—Mrs. I. R. Johnson, Rushton.

Music—M. R. Cutler, DeWitt. Report of committees. Election of officers.

Afternoon, 1:00 P. M. Music—M. R. Cutler, DeWitt. Address—Governor Alex. J. Groesbeck.

Reading—I. R. Johnson, Rushton. "Problems of Taxation from the Farmer's Standpoint," Hon. O. L. Barnes, Lansing.

Music—M. R. Cutler, DeWitt. "The Michigan Department of Agriculture and the Farmer," H. H. Halliday, Lansing, Commissioner of Agriculture.

Reading—I. R. Johnson, Rushton. "Organized Agriculture—Our Club's Big Job," C. B. Cook, Agricultural Agent, Oakland county.

Music—M. R. Cutler, DeWitt.

THE PATHFINDERS.

(Continued from page 539). of a thin, stooped woman, with dejected eyes and drooping mouth. She met more than half-way the timid offer of a welcoming kiss, and was rewarded with a rush of tears, and a choked, "Oh, my dear, dear daughter."

Father Allen's kiss was hearty and resounding.

"Welcome to the woods," he greeted her. "Place ain't much to look at, but it's all paid for."

Eighteen-year-old Chester was shoved forward, fourteen-year-old Nellie giggled a welcome, but eight-year-old Tom refused to come out from behind his mother.

Supper was ready, and though her own new home across the lane was waiting, Milly urged that they eat before she inspected it. She insisted that she was starving. Really she was filled with a most unbridled dread of seeing what was behind the closed doors.

Just before Bob started to milk they

went over. He threw up the blinds letting in a flood of light on the bare white walls, the shiny golden oak furniture, the cheap rug with its gaudy center of red and yellow. She forced herself to smile at Bob's enthusiasms.

When at last he had gone she walked slowly through to the tiny bedroom. Why had she not visited his mother before she agreed to come up here to live?

The homesickness which she had been fighting off all during those last hours in the sand engulfed her. She threw herself down on the bed, pulled the pillows over her head, and cried as hard as she did the first night she slept away from her mother.

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Melotte, manufacturer of the greatest cream separator the world has ever known, announces a sweeping reduction in prices. Take advantage of this condition while it lasts. Buy now and save money.

Self Balancing Bowl

The Melotte bowl is self-balancing. Positively cannot get out of balance, therefore cannot vibrate. Can't remix cream with milk. Runs so easily, bowl spins 25 minutes after you stop cranking unless you apply brake. No other separator needs a brake. Bowl chamber is porcelain lined.

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30 days' free trial—then, if satisfied, only \$7.50 and a few easy payments—AND—the wonderful Belgium Melotte Separator is YOURS. Don't buy any separator until you have found out all you can about the Melotte and details of our 15-year guarantee which is infinitely stronger than any separator guarantee. Write TODAY. The Melotte Separator, H. B. Babson, U.S. Mgr. Dept. 9109 2643 W. 19th Street, Chicago, Ill.

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\$104.00 cut on 18 ton Silo
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Ross In-de-str-uct-o Galvanized Metal } SILOS
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Write today for our Low Price, Easy Payment, Early Order, Club Shipment Proposition.

E. W. ROSS COMPANY,
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Better Service Quick Returns

Ship your veal, hogs, lambs and poultry to Gunsberg Packing Co., Eastern Market, Detroit, Mich., check mailed same day goods arrive. Highest price always. Write for shipping tags. References—Peoples State Bank.

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Commission Merchants. Dressed Beef, Hogs, calves, Poultry, Live & Dressed, Provisions, etc. Correspondence Solicited. Ref. Wayne County & Home Savings Bank. Bradstreet. Detroit, Mich. Cherry 7654

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GEO. E. ROGERS & CO.,
601 Wabash Bldg., Pittsburgh, Pa.

HAY SHIPPERS, for highest prices bill all cars to
The E. L. RICHMOND CO., Detroit.

HARDWOOD ASHES AT PRE-WAR PRICES
Have been instructed by the Ash Gatherers of Ontario to sell 30 cars of 30 tons each. It will pay you to buy a car at once and store till spring.
Geo. Stevens, 364 Mark St., Peterborough, Ont. Can.

Tobacco Natural Leaf, Sweet, mellow hand-picked
chewing, 5 lbs. \$1.50; 10 lbs. \$2.50. Smoking, 20 lbs. \$4.00. Furnish free receipt for preparing. Quality, del. guar. Farmers' Tobacco Exchange, Sedalia, Ky.

Homespun Smoking or Chewing tobacco. Collect on delivery, 10 pounds, \$2.50; 20 pounds, \$4. Ford Tobacco Company, Mayfield, Ky.

Trial Offer—10c brings midwest farmers' utility poultry paper, twice a month for 3 months. Poultry Guide, Box D, Montpelier, Indiana

Registered Shorthorns AT AUCTION

John Wallace Farm, 5 1/2 miles Southwest of Lapeer,

DECEMBER 6th, AT 1 O'CLOCK

8 cows and heifers, part of which were sired by Oxford Dale, son of Butternut, he a son of Avondale. Butternut was successfully shown at Michigan State Fair by Mr. J. Smith of Ann Arbor. Many of Butternut's get were sold to Michigan and Ohio breeders for as high prices as any Shorthorns in recent years. Oxford Dale will be included in this sale. Also a few registered Aberdeen Angus. 12 good milch cows fresh or close to calving.

JOHN WALLACE

Lapeer, Mich.

HOGS

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.

Chester Whites quality March boars and fall pigs at a very low price, satisfaction guaranteed. F. W. Alexander, Vassar, Mich.

CHESTER Whites—Fall pigs only, for sale. A combination of Wildwood Prince and Big Sensation blood lines. G. D. Springer, R. 6, Grand Rapids, Mich.

Raise Chester Whites
Like This
the original big producers



I HAVE started thousands of breeders on the road to success. I can help you. I want to place one hog from my great herd in every community where I am not already represented by these fine early developers—ready for market at six months old. Write for my plan—More Money from Hogs. G. S. BENJAMIN, R. F. D. 10, Portland, Michigan

O. I. C. BOARS

shipped O. O. D. Mason, Mich.

O. I. C's.

April and May boars at reasonable prices. Weber Bros., 10 Mt. and Ridge Rds., Royal Oak, Mich.

O. I. C's. one yearling boar and last spring pigs, either sex not akin. Big growthy stock, 1/4 mile west of Depot City Phone. OTTO B. SCHULZE, Nashville, Mich.

O. I. C. Spring boars and gilts not akin. We breed and own the Grand Champion Boar at West Mich. State Fair. We ship O. O. D. and Reg. free. GEO. M. WELTON & SON, Alto, Mich.

For Sale O. I. C. Serviceable Boars

H. W. MANN, Dansville, Mich.

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

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

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

O. I. C. and Chester White Swine. Strictly Big Type with Quality. I am sold out of everything but Spring pigs. Have the finest lot I ever bred. Meet me at the State Fair and other leading fairs of the State. And see a sample of our hogs and pigs.

NEWMAN'S STOCK FARM, R. 4, Marlette, Mich.

O. I. C's, Boars and Gilts from April and May farrow. Size and quality guaranteed. Ship O. O. D. Elm Front Stock Farm, WILL THORMAN, Dryden, Mich.

O. I. C's. 20 choice young boars, also fall pigs. CLOVER LEAF STOCK FARM, Monroe, Mich.

O. I. C's Choice April boar from a grand daughter of Wildwood Prince and from a son of Petroleum Giant. A. J. Barker & Son, Belmont, Mich.

O. I. C's April boars all sold, one April gilt left and Aug. pigs. MILTON PETERSON, R. 2, Ionia, Mich., "Elmhurst Farm"

Gilts All Sold

Could have sold many more, and have only five more boars left for sale. Order Early. Remember the Spotted Poland China is the coming farm breed for Michigan. Address W. L. BEARCE, or CHAS. BABCOCK, Ovid, Michigan.

LARGE TYPE POLAND CHINAS

Spring pigs of either sex. Sired by F's Clansman Grand Champion Boar 1920 and by Smooth Buster 1st Jr. yearling 1920. Priced to sell. Write or see them. A. A. Feldkamp, R. 2, Manchester, Mich.

LEONARD'S Big Type P. C. Herd headed by Leonard's Liberator 488,285, the tallest, longest and heaviest boned pig for his age in Mich. Call or write, stock in season. Fall pigs at Bargain Prices. E. R. LEONARD, St. Louis, Mich.

Big Type Poland China

fall pigs either sex, sired by Clansman Buster and by Hoover's Giant. Also gilts bred for spring farrow to Hoover's Liberator. Priced to sell, satisfaction guaranteed. DORUS HOVER, Akron, Mich.

Big Type Poland Chinas

Size Quality Type Ancestry

The best the breed affords

Write or see

Wesley Hile, Ionia, Mich.

The Thumb Herd Big Type Poland Chinas

For 30 days I am offering bargains in Poland Chinas. My herd boar which won five firsts grand champion at Bay City, 2nd at State Fair in 1920. Spring boars, gilts and pigs, all ages by him. Peace and Plenty and Tuscola Lad. Out of Miss Smooth Jumbo, Model Magnet, Orange Maid and others. Largest herd of prizewinners in the thumb, sold on approval. Write your wants. E. M. ORDWAY, Millington, 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.

For Sale Mich. Orange sired by Monarch Orange by Wis. Orange. This herd sire took first at Nor. Mich. State Fair. He is a proven sire and as nice a built hog as there is in Mich. I guarantee him in every way. Price \$165. Also a litter of fall pigs from this sire and Queen Buster. They are hard to beat. ALFRED MYERS, Lock Box 2, Trenary, Mich.

Fire Sale is a place for bargains. We can under-sell any fire sale on earth. We are making a special price on Big Type Poland China Boars Sired in the purple. We can furnish just what you want. Over 100 head on hand. Bell Phone. JNO. C. BUTLER, Portland, Mich.

L. S. P. C.

1 yearling herd boar as good as you ever saw, spring boars by Nov. 1st. You can't beat the price nor the breeding. H. O. SWARTZ, Schoolcraft, Mich.

LARGE TYPE P. C.

Home of the largest herd of individuals in Michigan. Come and see. Compare and be convinced. Expenses paid if not as represented; priced in keeping with the times. Young boars ready to ship, that grow into winners, also sows. W. E. Livingston, Parma, Mich.

Big Type Poland Chinas

For Sale. Smooth Orange, No. 408/79, age 20 months, Miss Prospect, No. 80112, age 2 yrs. 7 months, bred Nov. 8. Two open gilts sired by Smooth Orange. S. O. WEBSTER, R. 2, South Haven, Mich.

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

Big type Poland China boars and gilts of April farrow, also one yearling boar that is hard to beat. Prices right. CLYDE FISHER, R. 3, St. Louis, 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.

P. C. swine, large type, March and Apr. pigs. Sired by "King Wonder", for sale, sent out on approval. R. W. MILLS, Saline, Mich.

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

Big type P.C. Spring boars and choice fall pigs, either sex. Sired by Big Bob Mastodon. Priced low, guaranteed. C. E. Garnant, Eaton Rapids, Mich.

A Few Fall Yearling Sows

good ones. E. D. HEYDENBERG, Wayland, Mich.

Hampshires place your order for bred gilts, and fall pigs at a bargain. 9th year. JOHN W. SNYDER, R. 4, St. Johns, Mich.

HAMPSHIRE Serviceable males and bred gilts for sale. J. C. Brorein, R. 3, Wapakoneta, Ohio

SHEEP

Shropshires 7 yearling rams also ram and ewe lambs. Buttar and Senator Bred by breeding. C. J. Thompson, Rockford, Mich.

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.

The Maples Shropshires

For Sale. Extra well bred yearling Rams, also 2 yr. old stock ram sired by a Broughton Ram. Will sell a few good ewes and several Duroc Jersey spring boars. Brookwater bred. Write your wants early.

C. R. LELAND,

R. 5, Ann Arbor, Mich.

Wool-Mutton Shrop. Rams, good big robust, one and two year old's \$15.00 at farm, or \$17.50 crated and delivered on cars. Also some good breeding ewes, bred to high class rams. A. H. FOSTER, Allegan, Mich.

Shropshires—Yearling and lamb rams with quality, sired by an imported Winton ram. Write for prices and description. W. B. McQuillan, Howell, Mich.

Registered Shropshire Rams

Priced to sell. Dan Booher, R. 4, Evart, Mich.

Reg. Shropshire Rams and ewes all ages. Quality ship on approval. H. F. Mouser, R. 6, Ithaca, Mich.

FOR SALE 30 yearling Delaine Rams; at farmers prices. CALHOON BROS., Bronson, Mich.

REGISTERED Oxford's. Some good ewes bred for Dec. delivery. Few good rams left. Write your wants. G. T. Abbott, Palms, Mich. Deckerville phone

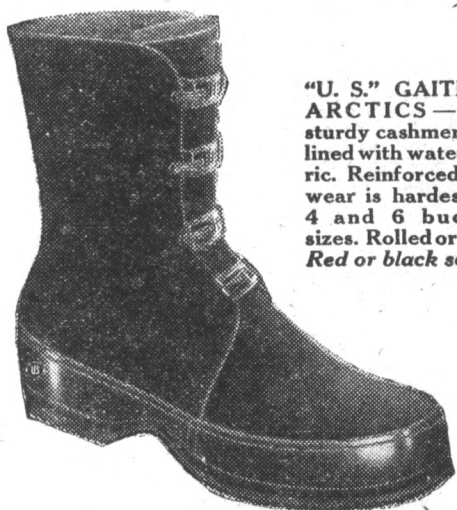
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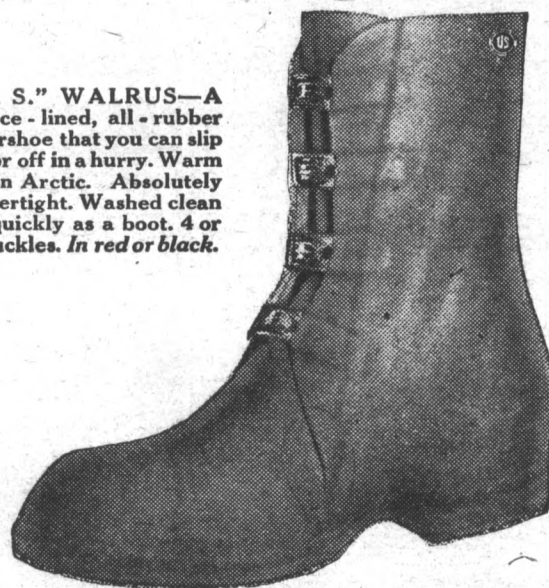
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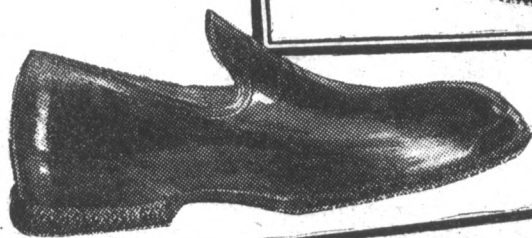
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