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Mr. Foster Finds His Farm

After Forty Years of Discouraging Results He Discovers that His Sandy Ingham County Farm Has Real Possibilities.

By M. M. McCool

A FEW miles east of the village of Okemos on the Grand River Road may be seen a neatly painted signboard which states, "One half mile to Foster Experimental Farm and Marl Beds." If one "follows the arrow" he will arrive at Pleasant Knoll Farm. It is owned by the Foster family, which consists of Mr. S. A. Foster, wife and daughter.

Mr. Foster is one of the most enthusiastic readers of modern agricultural practices that is to be found in Michigan. No meeting scheduled at the Michigan Agricultural College escapes his notice. If there is a possibility of it being of interest or value to him he calls up some of his friends and obtains inside information on it.

yielded about ten to twenty bushels per acre and rye from ten to eighteen bushels. The corn crop was usually good because of manure from the cows being placed on the land. There was no silo on the farm then, nor is there at the present time. The corn that was grown was fed from the shock to the live stock. Potatoes produced about seventy-five bushels of marketable ones per acre.

This general plan was followed from 1903 to 1915 when something happened. About that time Mr. Foster began to read and study along soil fertility lines. This was just prior to Farmers'

er on the test plots or general field a perfect stand of clover and an excellent crop was obtained. This was the first crop of clover that had been grown in forty years. Marl, acid phosphate and manure proved to be a good trio on this land.

Foster Gets the Sweet Clover Bug.

He soon realized that his soil was almost depleted of vegetable matter by farming methods practiced for many years, the hillsides washed and gullies formed and the sand was migratory in its habits, that is to say, it did not remain in one position but was shifted about to a greater or less extent by the wind. Mr. Foster could see the result of these conditions so he started soil improvement by applying six yards of marl and two hundred pounds of acid phosphate per acre and seeding sweet clover in the small grain. The entire crop of sweet clover

out of the ground. The clover is turned under in May and three hundred pounds of acid phosphate are added per acre and potatoes planted. This completes one round of the rotation.

As stated previously, all vegetable matter produced on the farm is carefully saved and returned to the soil, the straw from two acres of the small grain being placed on one acre of land. The soil no longer washes or gullies and does not flow as a result of these treatments.

He is going to determine the benefits, if any, to be obtained from the use of potash. Judging from the nature of his soil and the system followed, as well as results obtained elsewhere in Michigan, potash should increase the yield of potatoes as well as the clover.

The Farm Lay-out Altered.

Owing to changes in his system of farming, Mr. Foster at once set about to alter the arrangement of his fields. There are no fences on the larger



Mr. Foster Now Grows Big Crops of Corn on Loamy Soil Built up through the Use of Marl and Acid Phosphate.

Moreover he travels extensively in order to see that he may learn. He has visited the Illinois Experiment Station fertility plots as well as others, seeking out information on methods for soil improvement. In other words, he is not provincial, either in his living or thinking.

As a result of certain events in his life, which I shall mention presently, Mr. Foster follows unusual methods of farming. He is an ardent believer in, and what is more important, a user of green manure crops, lime and fertilizers. He follows certain practices because he has found them to be both pleasant and profitable.

This farm is more than eighty years of age, having been previously owned by the senior Foster. The farm is composed of one hundred and twenty-three acres, sixty of which are made up chiefly of brownish loamy sand to the depth of eight inches and underlaid by yellowish sand to the depth of several feet, and the remaining sixty-seven acres on muck land.

In talking over the situation with Mr. Foster recently he stated that his father practiced general farming. He raised corn, oats and rye. Twelve or fifteen cows were milked and several head of sheep kept on the farm. When he took possession of the farm in 1903 and for several years thereafter, oats

Week at East Lansing during the winter of 1915. He attended the meetings and came in contact with the owners of marl beds and heard talks on the liming of land and other subjects. The evening of the first day he went home, shoveled the snow from a spot on his muck land and dug through the latter into the grayish deposit, collected samples and brought them to the M. A. C. soils department, the following morning to have them tested. This was done for him and the samples were found to be a fairly good grade of marl. He also collected samples of soil from his farm which were tested and found to be sour or in need of lime, low in humus, containing slightly more than one per cent and deficient in phosphorus, carrying about four hundredths of one per cent, or eight hundred and forty pounds per acre.

One of the college professors being more or less human, although this possibility is doubted by some, scouted a live wire and took up cooperative projects with Mr. Foster; arrangements were made for the project to be started in the spring. Strips of land across the fields were treated—some had marl, some marl and manure, some muck and marl, some marl, manure and acid phosphate and some had manure, raw rock phosphate and lime. Where marl was used on the land either



June Clover, Sweet Clover and Alfalfa Refuse to Grow on this Sandy Soil Until Lime is Applied. Clover Had Not Been Grown for More than Forty Years Previous to the Use of Marl.

which was good was turned under. Straw, that was obtained from two acres of small grain was applied to one acre of land. This latter practice is still followed. Potatoes followed the green manure crop and again two hundred and fifty pounds of the phosphate were applied. The first year the phosphate was applied to the potatoes it brought a net return of \$14 per acre.

A Three-year Rotation is Followed.

The system being followed on this farm consists of small grain, oats with clover seeded early with two hundred pounds of sixteen per cent acid phosphate per acre. He has found that the sweet clover grows so large that by the time the oats are harvested they spoil in the bundle and he is obliged to seed either June or Mammoth clover instead in the oats. The oat crop is followed by wheat, sweet clover being seeded as soon as the frost goes

tracts of land which are oblong in shape and accessible.

Mr. Foster's marl bed is rather wet during the rainy season and for some time thereafter. So during the summer he takes advantage of the rather dry condition of the marl, removes a sufficient amount of the material and places it in a heap to be distributed later on in the season at his leisure. He uses an ordinary manure spreader to scatter this marl on the land. He does not apply less than six cubic yards per acre and on one particular portion of the farm which is very light and extremely unproductive, he uses much larger quantities than this for the production of alfalfa.

Alfalfa Does Well.

I stated previously that clover had not been grown on this land for at least forty years, due to the fact that
(Continued on page 37).



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DETROIT, JANUARY 14, 1922

CURRENT COMMENT

THE MICHIGAN FARMER SAYS:

Sloth has brought down more men
and more nations than has the sword.

What is more common than animos-
ities between parties who must coop-
erate to gain their own subsistence?

It is a sad commentary that so many
people are so deeply concerned for
the reputation of their wit while so
few are anxious for their integrity.

No greater calamity can befall a
neighborhood than a little gossip
which, when grown rends the neigh-
bors into two classes and makes these
classes strangers to each other.

The Farmer's Taxes

JUST a few years ago many men who through industry and thrift found themselves in possession of a comfortable competence to support them in their declining years, elected to spend those years in the country or the small country town and remain supporting factors in the community where they had spent their active life, rather than to move to some urban community and pay the much higher tax rate required to support the service demanded by the urban population. But this reason for this class of people remaining in their old home communities no longer exists. Country tax rates have not only jumped up to city levels but have in many instances passed them. The tax rate in some farm communities has mounted to four per cent of the assessed valuation, which has been raised to approximate the actual cash value of the property. In very many communities the rate is around three per cent of the assessed valuation. In the editor's home community it is just a fraction below this figure, due to the fact that "special taxes" have not been voted as freely as in some of the worse burdened farm communities.

As this is the inventory season, we may well take stock of what we are getting for this increased burden of taxation, which will average close to three times the normal pre-war burden. The one thing to which we can point in the writer's community is good roads. These we needed and appreciate. Although they cost too much, and for the most part are not yet paid for, we can pass them as being a public necessity under present conditions and

worth the exorbitant price which they cost. We authorized the expenditure with our votes and most of us are glad we have them, even at the cost of continued high taxes which will be required to pay the interest and principal on the construction bonds. In some communities there are improved schools which fall in the same class, although this is not the case in the writer's community, which is responsible for our comparatively "low" tax rate.

Outside of these local public improvements there have been no large operations of this kind carried on in the state or its minor municipalities, except the erection of a needed state office building. To offset this there has been less than the usual expansion of the plants of state educational, charitable and penal institutions. The expense of the conduct of all governmental activities has, of course, increased, at least proportionately, and in many cases out of all proportion to the increased expense of conducting ordinary business activities. And in the meantime the burden has been doubly increased by deflation, which the farmers of the state have felt more keenly than any other class of business men, if not any other class of citizens.

It is unreasonable to suppose that the farmers of the state can continue to carry this heavy burden of taxation under present conditions. It is not to the interest of the people of the state at large that they should. Normal business conditions cannot prevail in any other line until they are reestablished in the basic industry of agriculture, and there must be relief in this direction before they can obtain on the farms. There must be a material lowering in the cost of public service and a more equal division of its burdens. And these needed reforms must be brought about largely through the united action of the farmers of the state through the selection of representative men to act for them in legislative and administrative capacities. Such action will insure wise economy in the appropriation and expenditure of public monies, and a just distribution of the burdens of modern governmental activities. Nothing else will accomplish this result. Hence the desirability of present discussion and future action along this line. During the twelve months of 1922 you will have the opportunity to cooperate in the selection of officials to act for you in all state, county and township governmental affairs. The remedy for this situation, so far as it is capable of being remedied, lies in the hands of the voters of the state. They should take the initiative in the selection of the best men for these respective duties, men whom they are sure will act for their best interest, instead of blindly supporting this or that candidate who may aspire to public office. There are two classes of people interested in the question of taxation—those who pay the taxes and those who spend them. The former are in the great majority, and by united, public spirited action it is entirely possible for them to minimize the tax bill through insuring a greater degree of economy and efficiency in its expenditure.

Farmers' Banking Problems

IN the last issue we discussed the attitude of Michigan bankers toward The War Finance Corporation plan of financing agricultural loans in the present emergency. In this connection we took occasion to voice just criticism of the class of profiteer bankers who are exacting usurious interest from perfectly sound patrons through the subterfuge of bonus and discount demands as a condition of granting loans. This condition, which our investigation shows to prevail in some sections of the state,

demand a remedy, if the communities so burdened are to prosper and develop normally.

A practical remedy for this situation is not easy to prescribe under present conditions. This is the more true because this is a local, rather than a general condition, hence the remedy must be a local one. There is also the question of a temporary expedient as compared with a permanent remedy to be considered, and the possible available local capital for the carrying out of any remedy which may appear feasible in any community.

The reader who is not confronted with this situation will ask why it is not possible to correct this situation by law. While this may be possible it is difficult, and perhaps the least feasible remedy which may be considered. The Michigan law at present fixes the legal rate of interest at seven per cent. Any higher rate is usurious under the present law, and any contract providing for a higher rate is void, hence the use of the subterfuges above enumerated as a means of collecting usurious interest in advance.

"But why," the reader may ask, "do the patrons of these profiteer bankers submit to this practice?" Simply because of their need of cash for emergency use. In a previous comment we urged our readers to "Make a big noise about it" where such terms were demanded. Some of them have replied by asking the question: "Would you, Mr. Editor, make a big noise about it if you were held up by a bandit with a gun?" And really, the individual farmer or the farmers' marketing organization confronted with this proposition is in little better situation. Their "Money Market" is confined to their own community. The outside banker owes his first obligation to his own community, and under present conditions has all or more than he can do to discharge it, without helping out the members of another community. Hence the remedy must be a local one.

Perhaps the best temporary remedy would be the organization of stock company loan associations which could qualify to secure funds through the War Finance Corporation. This is fine advice, but difficult to carry out, however, under present conditions, for the reason that liquid capital required for such an investment is not available in most communities needing the remedy. But in sections of the state where this practice is at all general it may be possible for public spirited and well-to-do farmers and business men to finance such organizations on a scale which will afford a measure of relief. In cases where this can be done information as to the procedure can be secured by writing the War Finance Corporation, Washington, D. C.

Perhaps a still better scheme would be for the farmers and right thinking business men of the community to make an issue of the proposition and organize a new bank in the community. This is often more easily possible than would appear on first thought. It is an uneconomic remedy, but may be a necessary one, and if applied and conducted along conservative lines a practical one. If provision is made for conservative management there is no better or safer investment for any man than in such a financial institution in his own community where there is need of it.

Since the close of the war there have been many millions of dollars subscribed to the stocks of many and varied industrial concerns by the farmers of Michigan. Some of this money has probably been wisely invested. Much of it has not. But it is a safe statement that it would all have been much more wisely invested if it had been put into financial institutions which would have aided in the development of agriculture and the business incident to it in the communities where the investors live. Right now when farmers' marketing enterprises need to

be more adequately financed and when there is more than the ordinary need for long-time and emergency credit by farmers in many if not all sections of the state, such a use of the funds which farmers have found available for investment during recent years would have been fortunate indeed.

Is it not, then, the part of wisdom to take a leaf from the book of our past experience and keep our investments largely in the communities in which we live, giving our own business first preference, local real estate loans the second, and financial institutions which will help develop our communities and make our own holdings more valuable at least third consideration. A broader community spirit is needed to this end. It will help to solve our banking problems, as well as our other business and social problems, to the great ultimate betterment of the farming business and farm life.

Jus' About Folks

FOLKS is interestin'. They's all so alike, still they ain't alike at all.

For inst. I know the fellow who is salesman for a horse medicine what thinks hisself the greatest salesman in the country. Now, he ain't said so right out hisself, but he's found defects and etc., about every salesman he knows of in this country but hisself. An' he's perfectly willin' to say hisself that he is a salesman.

And then they's fellows like Dan Mason what makes a big noise like General Disturbance, but who quick-like changes his complexion when his wife says: "Dan, you go out and get me a hunk a wood or two." They say mice makes elephants awfully scared.



Now there's Everett Smith what don't look like nobody and don't act like nobody, but you find he's a real fellow after you get acquainted with him, which ain't very soon.

Maybe you know fellows like John Lang what is a perfect gentleman before ladies and other folks, but he talks terrible language to his automobile and other machinery just like they know what he is talkin' about. I ain't got no such educated machinery on my farm, 'cause I tried it.

Ezra Munson believes in plantin' his potatoes by the moon, but he says nobody can tell him times is going to get better after they can't get no worse.

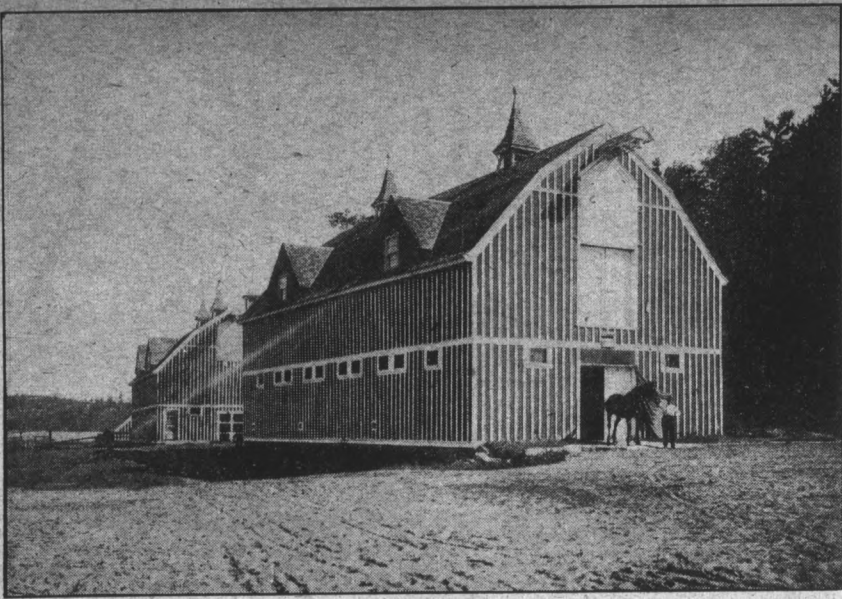
Heck Jimson is perfectly safe on Sundays, being one or the supportin' posts of the church, but you got to watch yourself when horse tradin' with him from Monday A. M. to Saturday P. M.

I guess Sam Walker'd like to use candles like his grandfather, if his wife would let him, as he is against all improvement except the financial condition of his pocketbook. He says the school he went to is perfectly all right for the present generation, without new fixin's. Hisself is his shinein' example of schoolin' at the time when he was gettin' birch-rodged. He ain't got no children of his own, of course.

Now, I ain't said nothin' of women folks, 'cause they's too profound a subject for casual perusal. A friend of mine who's got his fourth wife says women is a hard book to read. My readin' experience of the subject with sister-in-laws, mother-in-laws, and Sophie, makes me want to second the motion.

Folks is queer people; ain't they? And you and me is folks.

HY SYCKLE.



A Barnyard Can be Kept Clean by Frequently Hauling Manure to Fields.

AMERICAN doughboys who experienced the monotonous weeks of training in the queer French villages can best appreciate the statement that a French peasant's wealth was often measured by the size and number of dung heaps which graced his particular location on a muddy alley or street. In fact, a current story claims that these imposing piles of manure almost spoiled the visit of a certain American officer returning to a good-sized village to see one Mademoiselle Henriette. Due to the many crooked streets and alleys, the officer had used several colossal manure heaps as guide marks during several visits to see the French miss. But just before this particular visit from the lines, the Americans had cleaned up the town. Consequently, in doughboy language, Lieutenant V was "out of luck" and wasted several precious hours in locating the object of his visit. The story may be pure fiction, but true it is that the peasants of Europe value their manure heaps quite highly—even if the brownish streams in the village streets did make many

an American soldier wish he were back at the home fireside.

Value of Manure.

Barnyard manure is one of the most valuable by-products of the farm. However, its value can easily be and ordinarily is greatly lessened by certain adverse conditions, improper treatments and modes of handling. The soils department of the agricultural experiment station at East Lansing, as well as similar stations of other states and countries have quite definitely determined the best means of handling manure in order to avoid losses and to get the best returns. The purpose of this article is to briefly consider such methods.

The value of manure lies not only in the fertilizing elements which it may contain—materials for which the farmer pays large sums when he buys commercial fertilizer—but also in the large percentage of organic matter and the great mass of bacteria. On the lighter soil types especially, organic matter may be the key to the scheme of improvement. The bacteria are of great value in that they are necessary for

Barnyard Gossip

A Peasant's Wealth.—By A. H. Joel

decay and resultant beneficial effects. A few ounces of rotting manure may easily contain a billion of these microscopic bits of life.

Manure Losses.

Carelessness and improper handling result in enormous losses, yet it is still no uncommon sight to see barnyards glutted with manure which has for months been exposed to the damaging action of rains, "fire-fanging," and the type of decay which spells the word loss in big letters. A farmer would not think of allowing a ton of commercial fertilizer to be washed by repeated rains—yet it is no small number who will day after day trample through the barnyard slop and give no thought to more economical, sanitary and efficient methods of handling the farm fertilizer.

Leaching or washing out may cause the loss of large portions of the phosphoric acid and potash, especially the latter, while improper fermentation generally results in the loss of large quantities of ammonia, the highest priced ingredient of commercial fertilizer. All three losses can be cut to a minimum by either hauling the fertilizer direct to the field as it is made, or by properly storing it in covered pits with tight bottoms. In the latter case, moistening and compacting the manure prevents loss of ammonia by excluding any large amounts of air, and thereby setting up the kind of rotting or decay which does not set free this valuable fertilizing substance.

Poor stall floors and the lack of sufficient bedding of the right sort to act as absorbents, are common causes of loss of liquid manure, which contains even a larger per cent of nutrients than the solid. Any system which fails to take care of this is incomplete.

Under the adverse conditions of

weathering and improper decay, just described, the loss may easily arise to fifty per cent of the nutrient constituents, and probably much higher with the ammonia and potash, which are most easily lost. Experiments and practical tests have shown that in six months' exposure, horse manure has lost as much as sixty per cent of its nitrogen, forty per cent of its phosphoric acid and seventy-six per cent of its potash. Converted to actual dollars, this loss might represent a very large sum on many farms.

"Fire-fanging," an apparent burning of manure is caused in dry, open heaps by the action of certain fungi. Manure thus attacked soon becomes of little value. Moistening and compacting, the remedies for improper fermentation, will also prevent this action.

Spreading of Manure.

It should no longer be necessary to caution farmers against placing manure in small piles in the field, to be scattered by hand later. Loss of ammonia and uneven distribution of plant food are the two main reasons. A manure spreader will pay for itself in a short time where there is any great amount of farm fertilizer to spread. Fineness, even spreading and saving of labor are but a few of its many advantages.

Reinforcement with Phosphate.

Manure contains a smaller portion of phosphoric acid than of potash or ammonia and is therefore an unbalanced fertilizer. The addition of rock or acid phosphate, at the rate of about forty pounds per ton of manure will greatly increase the effectiveness of manure. Conclusive results have been produced as to this point. The phosphate can be dusted over the manure spreader loads as they are hauled to the field.

Rural Agricultural Schools in Michigan

THE new rural agricultural school meets the needs of the rural community and great progress is being made in the organization of such schools.

The rural agricultural act under which these schools are organized became operative in 1919. In 1921 it was amended, thereby becoming more workable and state aid was increased. During 1919-1920 about twenty-five consolidations were formed, and since the opening of this school year nearly as many more organizations have been effected. Since last spring no less than twelve communities in Oakland county have waged campaigns or are in the midst of a campaign for the establishment of rural agricultural schools. Seven of these have voted and consolidation carried in all but one of these communities. The other five proposed consolidation districts will vote in the near future. This places Oakland county in the lead as to the number of organizations. Wexford and Genesee counties are in the lead as to the number of such schools in operation.

Among other counties that are active in the movement or have one or more such schools are: Livingston, Shiawassee, Cass, Alcona, Charlevoix, Oscoda, Ingham, Manistee, Kent, Mecosta, Montmorency, Van Buren, Benzie, Leelanau, Grand Traverse, Macomb, Berrien, Newaygo, Muskegon, Wayne, Jackson, Dickinson, Luce, Iron, Marquette and Clinton.

Two of the outstanding requirements for a successful rural agricultural school are a large assessed valuation

and a sufficient number of children to insure classes of reasonable size and to make practical the employment of the necessary vocational and high school teachers. The natural community center should be chosen and it should include as much territory as possible without necessitating transportation routes that are too long. In most communities an approximate area of six miles square should be the maximum, but of course this would depend upon the topography of the section.

Consolidation makes possible a higher degree of efficiency in all of the elementary grades from the first to the eighth inclusive. This is due to the fact that each teacher has fewer grades to teach, longer recitation periods, and is better qualified as a rule to teach the particular grades assigned to her. She is chosen to do the line of work that is most congenial to her and for which she is trained and adapted. The tenure of office of the teacher in a consolidated school is much longer than in the average one-room school. Positions in this type of school are much more attractive to trained and experienced teachers. The foregoing facts make it possible for more thorough work and real teaching of the subject matter in the first eight grades.

High school advantages are made possible for all of the boys and girls of the community without the removal of the children from parental control. All who live more than one mile from

the school are transported along with the grade children and are at home each night. Subjects dealing with the basic industry of the community and of a vocational nature are included in the high school course. This insures a greater respect and appreciation of the home and community life on the part of the young people who have received such training. In the typical rural agricultural school the vocational work is growing in popularity. It is made educational and has a tendency to vitalize the work in arithmetic,

English and other allied subjects.

In the work in manual training or farm carpentry, special attention is given to the proper care and use of tools. The articles made are such as may be utilized as a part of the school, home or farm equipment. The practical side of this work is well illustrated by the work of the boys in the Goodrich school of Genesee county. They built a motor bus body, which is being used in transporting pupils, installed shower baths in the school-house, built seats, tables and blackboards, and turned out hall trees, tables, book troughs, laboratory cases and sewing tables. They built a re-

(Continued on page 47).



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Late Agricultural News

AGRICULTURAL CONFERENCE.

THE national agricultural confer-
ence will be held in Washington,
beginning Monday morning, January
23. It is expected that President Hard-
ing will open the conference.

FRUIT ASSOCIATIONS TO COOPER- ATE.

FRUIT growers of western and south-
western Michigan, including two
representatives from every cooperative
fruit marketing organization in Michi-
gan's fruit belt, will meet at Benton
Harbor on January 19 at the call of
the State Farm Bureau.

COW-TESTING ASSOCIATION FOR LIVINGSTON COUNTY.

LIVINGSTON county, known as the
leading Holstein county of Ameri-
ca, has just organized its first cow-test-
ing association. Twenty-two of the
seventy-six members in the new or-
ganization own pure-bred cows—a fact
of considerable interest. All of the
best known breeds are represented
among the three hundred and eleven
cows in the association.

F. S. Dunks, Livingston county agri-
cultural agent, cooperating with Mr.
Baltzer, dairy extension specialist from
the college, was chiefly responsible for
the forming of the new organization.

FARM ORGANIZATIONS AND FARM- ERS' WEEK.

THE six leading agricultural associ-
ations and institutions of Michigan
will be represented on the Farmers'
Week program at M. A. C. during the
week of January 30-February 3. L.

Whitney Watkins will represent the
State Board of Agriculture and college
while H. H. Halladay will represent
the State Department of Agriculture.
A. B. Cook, of Owosso, Master of the
State Grange; James Nicol, of South
Haven, president of the Michigan State
Farm Bureau; Grant Slocum, of De-
troit, head of the Gleaners; and Lee S.
Noble, of Oxford, president of the State
Association of Farmers' Clubs are the
leaders of the four agricultural asso-
ciations which are to be heard from.

HOWARD MUMFORD TO COME TO MICHIGAN.

PRESIDENT J. R. Howard, of the
American Farm Bureau Federation,
and Prof. H. W. Mumford, secretary of
the Farmers' Live Stock Marketing
Committee of Fifteen, head of the Live
Stock Department of the Illinois Agri-
cultural Association, and connected
with the Animal Husbandry Depart-
ment of the University of Illinois, have
accepted the invitation of the Michi-
gan State Farm Bureau to speak at the
fourth annual meeting of the State
Farm Bureau board of delegates at the
Michigan Agricultural College on Feb-
ruary 2-3.

HOLDS ANNUAL MEETING.

TUESDAY, January 24, the Develop-
ment Bureau holds its annual
meeting at Bay City to elect officers
for the ensuing year. Present plans
are for the business meeting of the
members Tuesday morning at the Bay
City Board of Commerce. In the af-
ternoon there will be an open meeting
at the armory under the auspices of
the State Department of Agriculture.

NEWS OF THE WEEK

Wednesday, January 4.

INDIA has been proclaimed a repub-
lic by the all-India national con-
gress.—Twenty-five are dead and at
least 200 suffering as a result of im-
bibing poisoned liquor in New York
during the holiday time.—The republic
of China alleges that France and Japan
are in a political military alliance to
curb America in her eastern policy.—
The State Industrial Commission of
Colorado decides on a ten per cent cut
for packing house employees in that
state.

Thursday, January 5.

BOIES PENROSE, a prominent re-
publican senator from Pennsylvan-
ia, dies in Washington.—More than 200
persons were arrested in Chicago in a
recent raid on rum drinkers.—There
were 4,500 less marriages and 1,700
more divorces in Detroit in 1921 than
in 1920.—Thirty U. S. Shipping Board
steamers are to be made ready at once
to be used in the Russian relief ser-
vice.

Friday, January 6.

AT a public New Year's reception
President and Mrs. Harding shook
hands with nearly 6,500 people.—Mr.
Blanton, a democratic representative
from Texas, introduces a bill to close
the domestic and turkish bath house in
the house of representatives which is
for the free use of congressmen.

Saturday, January 7.

BY recent postal order narcotics of
every type are forbidden in both
domestic and foreign mails.—It is re-

ported that Postmaster-General Will
Hays has been offered the position of
general director of the National Asso-
ciation of motion picture industry at
a salary of \$150,000 a year.—The com-
missioner of accounts in New York
recommends that the salary of public
officials be materially increased to re-
move the temptation of getting rich
while in office.

Sunday, January 8.

AT the meeting of the Michigan
State Fair Association, the officers
of the county fairs win their fight to
continue horse racing and games of
chance.—The French have accepted
the United States submarine policy in
the peace conference.—The United
States will participate in the interna-
tional economics meeting to be held at
Genoa, Italy, in March.

Monday, January 9.

HENRY FORD is the first United
States billionaire, according to his
own statement.—The court in Detroit
decides that a baby cannot be held as
a hostage for a board bill, which
amounted to \$225.—A statue of Joan of
Arc, given to the United States by the
National Women's Society in France,
was unveiled in Washington recently.

Tuesday, January 10.

THE \$250,000 Seventh Day Advent-
ist Tabernacle at Battle Creek was
destroyed by fire.—The Dail Eireann,
the Irish parliament, ratifies the Brit-
ish-Irish peace treaty by a vote of six-
ty-seven to fifty-four. This makes Ire-
land a free state, such as Canada is.

TOP-NOTCH PRICES

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We pay more
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buy furs to make them up into fur gar-
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sells your skins to the manufacturer.

Ship to us whatever skins you have
and we will write you how
much we will pay for them. If not satis-
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gladly ship the skins back to you. Isn't
that fair and square? Ship your furs
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\$85 Fur Lined Ulster

For \$35 Worth of Raw Furs

Special Introductory Offer to get new custom-
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Heavy galvanized iron—70 gal. capacity. Oil burner directly
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Empire Tank Heater Co.
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Take a whole year to
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Make your tax-eating stump fields pay
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STUMP PULLER
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If so, did you ever run out of
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Sure you did, just when you
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will never happen again. They
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Cal. 45 Breech Loading

First class condition. 41 inches long, weight 7
lbs. \$3.50. Then for \$3 more, you may have a
smooth bore barrel to shoot shot. This makes a
wonderful combination. The smooth barrel can
be interchanged by anyone in 5 minutes. Millions
of Bird or Ball Shot cartridges, 3 cents each.
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Dairy Farming

TO FURTHER TUBERCULOSIS CAMPAIGN.

DAIRY interests everywhere are pleased with the inclusion of an appropriation of \$600,000 to pay indemnities for cattle slaughtered in the anti-tuberculosis campaigns. This appropriation is included in the recent deficiency appropriation bill of congress. The item was placed in the bill by the senate and was unanimously approved in conference.

THE STICKER IS THE WINNER.

THIS is no time to quit the breeding and dairy business, Prof. O. E. Reed, head of the dairy department of the Michigan Agricultural College, told members of the Western Michigan Holstein Breeders' Association at their special winter meeting in Grand Rapids. He stated the largest rewards come to those who stick in the business permanently, through lean and fat years.

"The fellow who goes in on the jump and out on the slump gets nowhere," said Professor Reed. "He buys when the prices are highest and sells when they are the lowest."

The future of the breeding industry depends upon the individual interested, according to Professor Reed, who pointed out that a cow which may be a world's record breaker in one breeder's hands may be a farm breaker in another's, depending upon the care and feed given the animal.

Promotion of community bull associations was advocated to enlarge the market for pure-bred sires and exchange of sires among breeders to reduce service fees and develop cattle along high producing family lines was recommended.—R.

MARSHAL FOCH FIGHTS FOR MILK.

THE National Dairy Council reports a recent incident which occurred in Cleveland to show Marshal Foch's attitude toward milk. Upon reaching Cleveland Marshal Foch found a strike on, and it was quite difficult to secure milk, many deliveries having been stopped. This did not interfere with the great old general's breakfast at all for he appealed his case to the chief of police and secured a flying squadron which sailed under his name and within an hour's time returned to his train with the morning's supply—six quarts of milk and six quarts of cream.

General Foch knows the value of milk and recognizes that he cannot maintain health and vitality without a good supply. If Marshal Foch will fight for milk, why shouldn't every man, woman and child become a fighter for this essential food?

The great French general is now seventy years old and he knows and says that milk is no baby's food but, on the contrary, food for all ages.

TUBERCULAR FIGHT WILL CONTINUE.

THE depletion of the special funds appropriated for the cleaning up of dairy herds in Michigan promised to put an end to this work until the legislature could replenish the funds. The state administrative board has, however, come to the rescue and allowed the use of moneys from the emergency funds to carry along the important work. Since the first of July \$58,381 have been paid out and there is now owing \$52,105 to farmers for animals already slaughtered.

H. H. Halliday, commissioner of ag-

riculture, states that 68,000 animals were tested during the fiscal year ending last June and that 83,000 have been tested during the last six months. The department is now taking a county as a whole and cleaning up every herd instead of following the old plan of examining a herd here and there. This work has been carried on in Livingston, Emmet, Antrim, Grand Traverse, Charlevoix, Jackson, Hillsdale and Wayne counties. On January first a force of testers began work in Kent. When the disease is stamped out of a county it is required that every cow or bull brought into the county thereafter be tested for tuberculosis.

MR. FOSTER FINDS HIS FARM.

(Continued from first page.)

the land would not grow clover without lime. As a result of his method of soil improvement Mr. Foster is able when he so desires to obtain excellent catches of alfalfa and the yields are also satisfactory. The marl, acid phosphate and organic matter tell the story. He is marling ten acres of land for alfalfa and plans to sell it to his neighbors for hay. This means another cash crop for him. He seeds alfalfa and sweet clover on the sandy land as early in the season as possible.

Muck Land to be Considered.

The muck soil on this farm is not made use of owing to inadequate drainage. The county drainage ditch that runs through it is partially filled and as a result the water table lies somewhat near the surface of this muck. If this can be remedied it is proposed to put on cooperative crops and fertility tests on this land in the near future. This soil may be producing excellent yields of hay, beets, rye and others within a few years. If drainage can be brought about here lies an important source of income, which is now being neglected.

Does It Pay?

As I stated early in this article, this system has been followed because it proved to be pleasant and profitable to the Foster family. As he states it, he could not be persuaded to return to the old way or methods followed by his neighbors. He hires little, if any, labor and the household duties are less than they were formerly. He and his wife have much time for reading and are able to travel extensively if they so desire. This year he sold from the farm 1,550 bushels of marketable potatoes, ranging in price from \$1.00 to \$1.15 per bushel. He has raised his yield from seventy-five to upwards of one hundred and seventy-five bushels per acre. They were dug one day and sold out by the evening of the next day at the farm, the quality of his product being recognized. He also had two hundred and forty bushels of certified rye which sold at \$1.00 per bushel. This was disposed of for seed. In addition he has two hundred and seventy bushels of inspected Worthy oats which he proposes to sell this spring for seedling purposes.

Probably the most important part of the results is the fact that Mr. and Mrs. Foster are intensely interested in this matter of soil building and improved varieties of grain and potatoes. In fact, when one visits this home he is impressed at once by the earnestness, enthusiasm and moral atmosphere about it. After having seen this place six years ago and again recently I am of the opinion that the man owning the land is equally as important, if not more so, than the nature of the soil, in governing the success of a given farm.



Larro cost could be cut \$7 a ton

Are we right in keeping faith with dairymen?

We could cut the cost of Larro \$7 a ton in two ways. One by adding such fillers as oat hulls, cottonseed hulls, ground screenings and similar low-grade materials. The other by using off-grade ingredients.

Any of these substitutes could be cunningly hidden. But old-time Larro dairy feed users would immediately detect them. The milk flow would quickly decrease.

A reputation is staked on Larro quality

We never have and never will cut the quality of Larro. A lifetime of experience has shown the fallacy of saving at the expense of quality. It has shown that it pays to keep faith with American dairymen.

So, in making Larro we use only cottonseed meal testing 43% protein. No musty or sour bran escapes our inspectors. All ingredients must be of certified quality. Our reputation is staked on Larro quality each day.

A wonderful blend

Larro success as the always reliable dairy feed is due, not alone to honest methods, but also to the discovery years ago of a wonderful blend. This blend is exceptionally palatable and easily digested. It brings vigor, vitality and health. Above all, milk yields are largely increased and

the period of profitable lactation is prolonged. Wherever used, this blend has produced remarkable results.

Today a corps of expert men are jealously guarding this rare blend. They make an average of 3700 inspections and laboratory tests each month. They use the latest and finest instruments of precision. To keep down the cost we have provided hundreds of labor-saving appliances. Thus, we do in minutes what would require hours in the ordinary way.

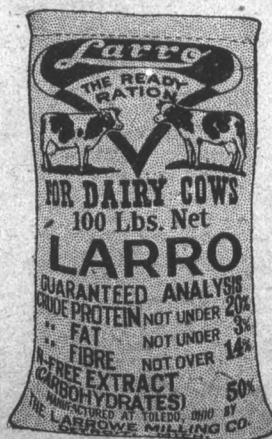
That is why we say, comparing Larro with crude home mixtures and unreliable prepared feeds is like comparing hand skimming with the modern cream separator. Home mixtures are troublesome, quality varies and they are seldom efficient. Low milk yields and profitless herds usually follow their use. They are far more costly in the end.

Take the coupon to your dealer

Get a two-bag trial of Larro dairy feed now—on our no-risk plan—and test it for yourself. But be sure it is Larro. Look for the name on sack and for our guarantee inside. This guarantee assures you more milk or your money back.

If you don't know a nearby Larro dealer, mail the coupon to us. We will tell you where you can get Larro.

THE LARROWE MILLING COMPANY, 830 Larro Bldg., DETROIT, MICH.



Larro

FOR DAIRY COWS

TO DAIRYMEN:

This coupon, if presented to the local dealer, entitles bearer to a two-bag trial on the Larro money-back guarantee plan. If mailed to us, we will send name of the local Larro dealer.

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A "balanced diet" may sound confusing to many people

The facts, as explained here, are simple.

The secret of a "balanced diet" is to have food containing all the elements needed for proper nutrition. These elements are protein, to nourish the tissues; starch and sugar to furnish energy; fat to supply heat; and mineral salts to provide the material necessary for building nerves, brain, and tooth and bone structure.

Grape-Nuts, the nourishing cereal made of whole wheat flour and malted barley, served with cream or milk, is a complete food for young and old alike.

Go to your grocer today and get a package of Grape-Nuts. Eat it with milk or cream for breakfast; or with stewed fruit, jelly or jam, as a delicious dessert for lunch or dinner.

Every member of the family will relish this palatable and nourishing food—

Grape-Nuts—the Body Builder
"There's a Reason"

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Insulation Against All Weather

THE NAPPANEE SEAL-TITE SILO will keep your silage in the coldest weather that blows, because of all materials of which silos are constructed, wood offers the best insulation. The Nappanee wood silo is guaranteed wind and weather proof.

Every farmer who does not have a silo knows that he is wasting one-half his corn crop every year. He should know also that the NAPPANEE SEAL-TITE SILO will pay for itself the first season. It will keep your silage sweet and wholesome, and will not only pay for itself the first year, but will return big dividends thereafter.

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Thousands in Use giving splendid satisfaction justifies investigating our wonderful offer: a brand new, well made, easy running, easily cleaned, perfect skimming separator only \$24.95. Skims warm or cold milk closely. Makes thick or thin cream. Different from picture, which illustrates our low priced, large capacity machines. Bowl is a sanitary marvel and embodies all our latest improvements. Our Absolute Guarantee Protects you. Besides wonderfully low prices and generous trial terms, our offer includes our—

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Whether dairy is large or small, do not fail to get our great offer. Our richly illustrated catalog, sent free on request, is a most complete, elaborate and interesting book on cream separators. Western orders filled from Western points. Write today for catalog and see our big money saving proposition.

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CHANGE POWER AS YOU CHANGE JOBS Busiest machine on the farm. Wonderful value at less than pre-war price. Never was such an engine bargain. Direct from factory to you. Learn about this wonderful farm helper. Kerosene or gasoline. No cranking. Write for description and factory price.

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HOW TO DIVIDE THE MILK CHECK.

I would like your view of a fair division of the milk check, John furnishes the cows and Joe furnishes the feed and does the work. The milk is sold for twenty cents per gallon.—H. S. M.

Usually, when a man furnishes a herd of cows with the farm renter the cows are fed from the undivided feed produced on the farm. Where extra feed is purchased the farmer and renter pay fifty-fifty and the milk check is divided fifty-fifty. Sometimes a little different arrangement is made with regard to the increase in live stock, much depending upon the quality of the cows furnished, whether they are pure-bred, grades, etc. Such things must be considered by the parties interested.

BUCKWHEAT FOR COWS.

I have a few bushels of buckwheat that I can sell for \$1.25 per hundred pounds. Which would be better, to sell it at that price or mix a little with corn and oats and grind for cows?—D. H. D.

I think it would be much better to get your buckwheat ground into flour and save the buckwheat middlings. They are very rich in protein. You can use them to mix with corn meal or ground barley or corn or oats and get more good out of your buckwheat than you would to grind and feed it. If you raise corn and oats to feed you would practically get as much good out of the buckwheat middlings as you would if you fed the whole buckwheat and you will have the flour to sell.

TENANT'S RIGHTS IN PERSONALITY.

I rented a farm on halves. There was a gasoline engine there when I came and later it went wrong. I took it to a garage. Am I to pay half of the bill? I pay for all the gasoline and the lubricating oil.—H. B.

The lease of the land gives no rights in other personality on the land in the absence of agreement on the subject. And if the lease gives the use of the personality there is no liability on the owner to repair in the absence of an agreement to do so.—J. R. R.

WASTE BY MORTGAGOR.

A. bought a farm of B. on which there was a mortgage for \$2,000 and a second mortgage for a smaller amount and B. took an additional mortgage to secure part of the purchase price. A. cut some timber last winter and had it sawed into lumber for sale, but owing to the slump in price did not sell, but has same piled up yet. The holder of the first and second mortgages does not object to the timber being cut, but B. who has a third mortgage is making an awful howl and says that he is going to attach the lumber and prosecute for cutting the timber. Can he do either of these? There is some interest past due to B.—F. W.

The cutting of timber which impairs the security of the mortgage is waste to which the mortgagee can object; and he can prevent the removal and sale of the lumber so cut, if he is not otherwise secure.—J. R. R.

RAISING VEAL CALVES ON MEAL.

Would you tell me whether it is a wise practice to attempt to raise calves for vealing on separated milk and meal at the present prices?—Subscriber.

Personally, I would not advocate the feeding of calves on separated milk and calf meal for vealing, especially not with whole milk selling as cheaply as it is this winter. A veal calf well fed on new milk will return as much

for the milk as can be obtained for it in any other way unless one has a special market this winter. While a fair veal calf can be produced on separated milk and calf meal with meat as cheap as it is this winter such calves usually sell at a very severe discount and the returns are not nearly as satisfactory as where the calf is fed on whole milk. The calf meals are only intended as a substitute for skim-milk in the raising of calves where one has a good market for their whole milk and I would not recommend the use of a prepared calf meal for either a veal calf or a calf which has skim-milk.—G. A. BROWN.

DAMAGES DONE BY STOCK.

Am I responsible for damage done by my hogs on the adjoining farms when they get through the neighbors' fence? The line fence is an old wire fence with a picket about every six feet. My shoats, weighing about 160 pounds, go through it anywhere.—J. K.

In the absence of a line fence under the statute every person is bound at his peril to keep his stock off his neighbors. If there is a line fence he is liable for his stock getting through his part of the fence, and if he has not put up his part of the fence he is liable for their getting through anywhere. Now, the purpose of a fence is to confine the stock usually kept on the farm; but as a matter of fact, few line fences will stop small pigs, and our courts have never explicitly determined just how effective the fence must be in the absence of contract. The remedy is by appeal to the fence-viewers of the town, and have them determine what sort of a fence shall be maintained, and whether the fence now there is sufficient. The statute has given that prerogative to them.—J. R. R.

LIEN OF CHATTEL MORTGAGE.

I have a renter under a lease and chattel mortgage. The mortgage is on one-half of stock, implements, etc., the other half is mine. This renter is sued by a former sub-letter for part of the renter's undivided one-half of grain and increase of stock of 1920 for his rent. Does my chattel mortgage come first, or the man who entered suit against my renter? The lease and chattel mortgage forbids sub-letting any part of the farm. Can I demand from sub-letter, rent for use of house, poultry house, garden, milk and firewood used while on my farm? I knew nothing of the transaction until late in the fall.—J. C. F.

If the chattel mortgage is recorded with the town clerk, it has preference. No lien is acquired by merely bringing suit. The right to recover rent depends upon contract and agreement to pay it or facts from which such an agreement could be implied.—J. R. R.

IMPLIED CONTRACT.

A friend, last April, brought to my farm a young heifer to keep for him until next spring and nothing was said about the cost of care for her. She has had a calf and it is sold. Now, what share from sale of calf and milk belongs to me?—S. L. S.

S. L. S. has no interest in the heifer, milk or calf, other than a lien for his pasture. If there is an express agreement as to the amount he is to have, that settles it. If the circumstances are such as to raise an inference that the pasture was to be given gratuitously S. L. S. has no remedy at all. If there was an implied promise to pay, he is entitled only to what the service was reasonably worth, to be determined by the jury in case of a trial.—J. R. R.



Look for this label sewed on the inside of the tongue of every genuine Wobst Felt Shoe

Here's Comfort and Warmth Found in No Other Shoes

Patronize the Wobst Dealer Nearest You

You will find the Wobst dealer the best man in your town from whom to buy any kind of shoes or other merchandise. He has been selected for the high character of his store, stock and trade.

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If you have never worn felt shoes it is time you became acquainted with them. If you have been dissatisfied with felt shoes you have bought, look at a Wobst Shoe—and notice the difference.

Made of the finest wool-felt, Wobst Shoes give you warmth and comfort you have never known—warmth and comfort impossible in a leather shoe. Built with guaranteed fibre counters, full grain upper leather where leather is used, and sewed by expert workmen with genuine shoemakers' thread, Wobst Shoes actually cost less per mile of wear because they last longer. And their purchase price is no higher than that of common felt shoes that are not nearly so well made.

The Wobst line includes both men's and women's plain felt, leather foxed and full vamp shoes—either unlined, grey felt, or wool-fleece lined—with choice of felt, combination felt and leather, and all leather soles. If no store near you carries Wobst Shoes send us the name of your shoe dealer and we will see that you are supplied.

Men's No. 751

This 9-inch Blucher style shoe, with its heavy black felt upper, is exceedingly popular with the man who looks for extreme shoe durability and foot comfort. Where leather is used, it is selected all grain—not "split". Lining is of high-grade grey wool-felt; sole is combination felt and leather; rubber heel.

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Only the best of materials and workmanship go into Wobst Felt Shoes. Any buyer who finds a defect in a pair of Wobst Felt Shoes may return them to his dealer who is authorized to refund the full purchase price of the shoes.

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HOW to
BREAK
and
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HORSES

Francisco Farm Notes

By P. P. Pope

THE old year is rapidly drawing to a close as I write. The joyous Yuletide is passing merrily with the home folks. Good old Santa Claus has made his usual rounds and has lightened his load materially at this house, where the better half of the Pope household was raised. We come here often. It is a good place to be, especially at Christmas time. We usually make the trip—about two hundred miles—via. state trunk line. It is a delightful drive in pleasant weather, the way always strewn with new and interesting things. Occasionally such familiar things as detours and blow-outs appear to add local color to the event. I do not need to enlarge upon

these affairs as they are both well known to Michigan Farmer readers. It was engine trouble this time. Had to put on a new engine at Milan, Borrowed it off a freight train. You see, we came by rail this time. Some of the



passengers thought the first in the engine went out once or twice, and another said they had to stop the train while the crew got off to catch a rabbit, but even at that we made pretty good time. I do not remember any time that we had to "back up to whistle." I fear these automobiles, with their "push" and their "pep," with their dashing response to the least whim of their passengers, have spoiled us. They take us when and where we please, and as rapidly as we want to go, with only an occasional remonstrance. When we get on the train the job is up to the train crew, and we are sometimes persuaded that railway officials and employees take their responsibility to the public none too seriously.

It is a great country, this land in northwestern Ohio, down along the old Maumee. Replete with history and romance, thrilling with stories of adversity and adventure. Teeming with richness and prosperity. It is a level country, I think sometimes painfully level, devoid of any suggestion of a hill or a hollow. Some of it is prairie. Lots of it known to geographical students as the "Old Black Swamp." Most of it heavily timbered originally. It is a rich country, rich in all the elements that bring prosperity. The soils are black and deep and very productive. It was upon exactly one acre of this soil that the writer grew 7,560 pounds of ear corn back in 1914 without manure, and incidentally copped a \$100 prize. It is literally covered with a network of drainage canals and ditches, and underlaid with thousands of miles of tile drains. Hard-surfaced roads made of crushed limestone, bound with tar, lead everywhere. Automobiles rush hither and thither like so many excited ants, and five hundred feet overhead lies an aerial mail route over which the great mechanical birds pass each day to and fro.

I hark back close on to a hundred years when, as the story comes down to us, my maternal grandfather with his good wife and family of six children, settled here, and I marvel at the contrast. Perry's great naval victory on Lake Erie was then too fresh in the minds of the inhabitants to be history. The little town of Perrysburg on the Maumee river had sprung up and been named in his honor. From this place, with their ox teams and what I pre-

sume would in later years have been called prairie schooners, came the settlers. Twelve miles out in a southeasterly direction, through mud and water hub deep, waded the caravan. They followed the route where now roll the rubber tires over the historical McCutcheonville Pike, as far in a minute as the early travelers made in an hour. Here along the north side and back a little way from a small stream, they came to a sandy ridge, a slight rise from the dead level and made camp. Here the father of the family lived but a short time and passed to the great beyond. The brave little mother staid on with the six children, the eldest of which was my grandfather. He was thirteen years old.

Hardship! You and I have no idea of it. Corn bread and potatoes, without salt, for weeks at a time; shoes made from home-cured hides, hair and all; the crudest of clothing, but a sharp axe always. There was lots of work to be done. The land was heavily timbered. Great oaks, hickories, and elms, chopping, chopping, chopping, then log rollings and burnings. Slow, hard, tedious work, but out of the forests gradually came the fields, and the golden corn and the wheat, and the cattle. Grandfather must have been some relation to me for he liked the cattle. He rode the country on horseback for miles around, even up into the lower counties of Michigan, buying cattle to feed, here a few, there a few, buying on the way out, picking them up on the way back, the drove increasing as it neared the feed lots. On one of these trips he stopped at a home where he found a very good pair of steers that had been used as oxen. The man of the house was away but the woman told him they would sell the cattle, that her husband said she should ask \$140 for them, but if she could not get that to take \$120. The cattle were well worth \$140 and she got the money.

Grandfather lived all his life and died at the original home site, clearing more land, raising more corn, and feeding more live stock as the years wore on. The days of adversity were long past, and in his later years, when the writer was learning to walk and say his letters, the increase from the business at the old homestead was buying a new eighty every year. He left behind him nine families of grandchildren, some of them still at the old homestead, some with parents and grandparents, lie cold and still in the little cemetery down the lane. Others are scattered to the four winds, from Boston to California, and from Michigan to Florida. Back on the old farm, now under the third generation of live stock farming, production remains at high tide. Beef and pork are still the chief sources of income. The family and the stock are comfortably housed, a veritable country boulevard passes the door, the electric car goes whirling by, and here on the corner of the farm, where highway and railway intersect, is now going up a modern centralized rural high school building.

I wonder if grandfather ever dreamed of "getting out of the woods," back in those trying days of his youth! I wonder if the opportunities his grandchildren enjoy are not greater than he ever dared dream; I wonder if he thought civilization had reached its zenith and was receding during those long hard years following the Civil War. Who could say if he were here now to witness the remarkable advance of the century, that he could hold anything but an abundant faith in the future welfare of his country.

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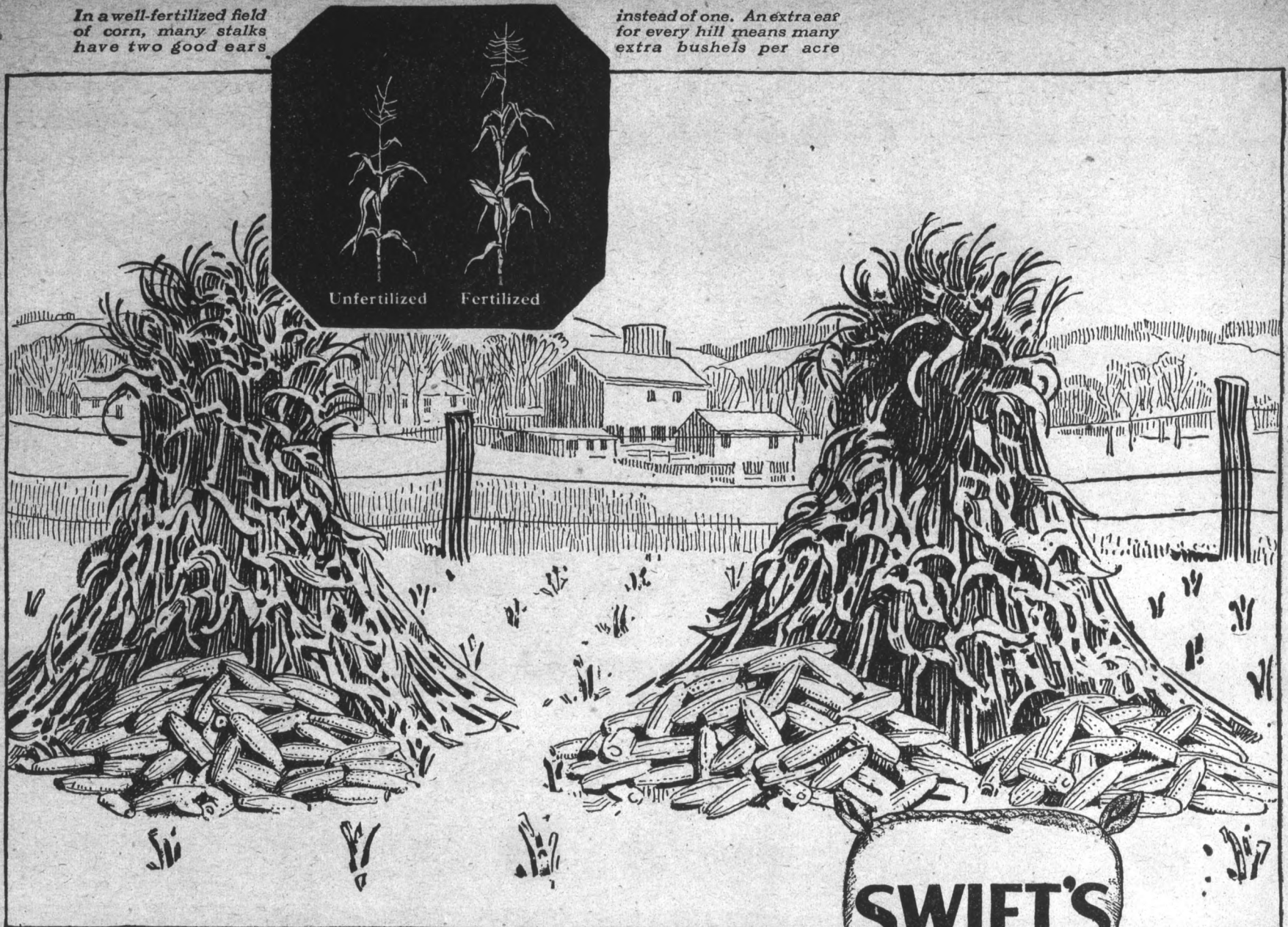


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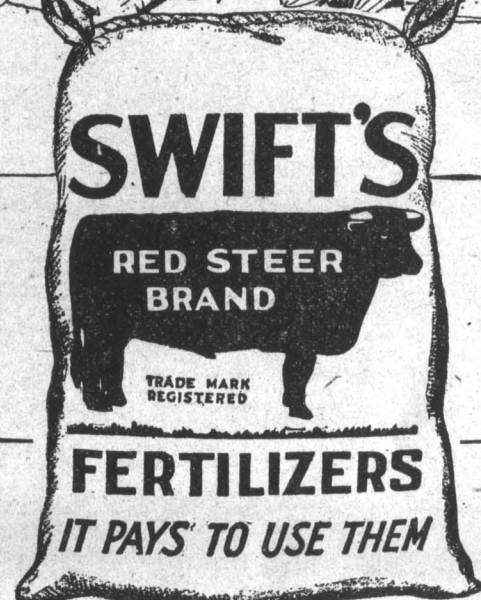
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HE FINDS TREES LIKE FEEDING.

MEMBERS of the Ohio State Horticultural Society who attended its midsummer meeting at Ashland saw an orchard which has not missed a crop in eleven years. It has not fallen off in yield even this year, when the apple crop of the state is barely a third.

When asked how he got trees to yield so well and so steadily, T. E. Thornburg, the proprietor of this orchard, said it was by "feeding" them. For twenty-five years Mr. Thornburg said he has been applying to his orchards fifteen tons of manure to the acre, and to each tree during the "blossom-pink" period five pounds of ammonium sulphate, five pounds of twenty per cent acid phosphate, and five pounds of muriate of potash.

Mr. Thornburg further stated that the stuff which makes apples come out of the air as well as up from the ground; that trees need a large leaf surface properly to build up large crops; and that it does not pay to prune young trees severely.

Included in the Thornburg orchards are ten Baldwin trees, now in their tenth year, which produced ninety-seven bushels last year. A Grimes Golden tree in its twenty-fifth year has produced a total of 267 bushels since 1914, with never an "off-season."

WHY NOT A MILK-FED SQUASH?

WE have milk-fed veal, milk-fed poultry, and numerous other delicacies, either raised or fattened on milk, and now comes along Mr. Wendall Richardson, of Ohio, with the milk-fed squash to tempt the vegetarian, as well as all lovers of that delicious winter dainty—the squash.

Even the most exacting conisseur of the squash has only to taste to be convinced that no other vegetable is half so delicious as this latest nursing, for such it is.

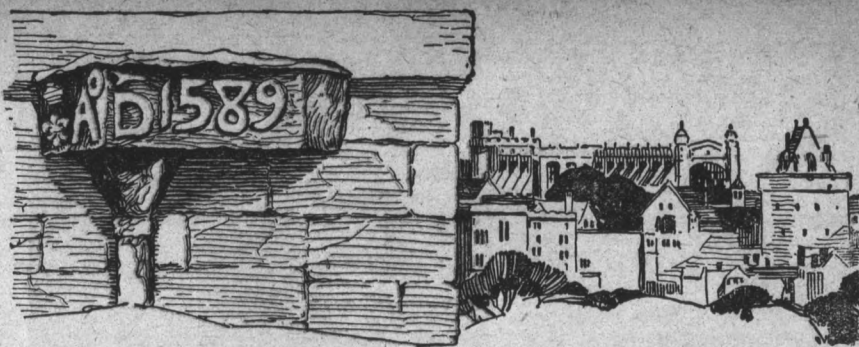
Being literally raised on the bottle, it is tenderer, sweeter and of far richer flavor than the common squash, and raising it is not a process that requires either elaborate machinery or tedious preparation and detail.

There is no having to get its head between the knees, and then, between the dexterous feats of maintaining one's balance while holding the head firmly, gently pushing it into a bucket, and inserting one's middle and index fingers into its mouth in endeavoring to teach the younger members of the bovine family to procure its daily sustenance from a bucket instead of its mother.

All one has to do is to partly sever the vine to which the chosen squash is confidently clinging, insert it daily into a bottle of fresh sweet milk and it will obligingly do the rest. The squash will grow faster than ever before and take on a delicious, sweet, rich flavor.—J. L. FOWLER.

BETTER SEEDS.

PROF. PAUL WORK, of Cornell, speaking on better seeds and how to obtain them, said there were many advantages in growing seed. One knows the percentage of his own seed, and if he grows his own seed and does it well he can turn a profit from the sale of the surplus; but you have got to be a plant expert and it requires a vast amount of labor and care to grow good seeds. It was his opinion that the bulk of the seeds would come from seedsmen; that men in the seed business are spending thousands of dollars to get good seed, while others were giving the matter of quality little attention, preferring to sell the cheaper seed regardless of quality.



Why King George Doesn't Like to Live at Windsor Castle

A NEWSPAPER item says King George doesn't like to live at Windsor Castle. He prefers Buckingham Palace, because the plumbing is more up to date.

Modern plumbing is quite different from the plumbing of Queen Elizabeth's time, but in one respect the plumber of today follows the custom of three hundred years ago. In all cases where permanence and real economy are desired, he still uses lead for piping.

Water will run through lead pipes for ages, without causing decay or deterioration. Drainage methods improve, and fixtures become more convenient and more beautiful; but underneath, where real utility is required, lead pipe is still used, because men have never found any rust-resisting metal the equal of lead.

Lead is also the best material for the rain-water drainage system of the house. The picture on this page shows a pipe-head on one of the outer walls of Windsor Castle. It was installed, along with gutters, leaders, and spouts, in 1589. For more than three centuries the rains that beat upon this ancient royal residence have been carried off by these lead pipes—and they are still intact.

Civilized man has found hundreds of other uses for lead and lead products, and of them all the most important is the use of white-lead as the principal ingredient of good paint.

Tons of paint are used, every day, to adorn and preserve the surfaces of buildings. Tons of pure metallic lead are corroded, every day, to produce the white-lead which gives to paint its protective power. "Save the Surface and You Save All" is a slogan which is teaching the world that paint-protection means the conservation of millions of dollars yearly in property values.

Most painters prefer to use the paint known as "lead-and-oil," which is pure white-lead thinned to paint consistency with pure linseed oil. Paint manufacturers use white-lead as the principal ingredient of the paint they make—and the quality of the paint depends on the amount of white-lead it contains.

National Lead Company makes white-lead of the highest quality, and sells it, mixed with pure linseed oil, under the name and trade mark of

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WORLD EVENTS IN PICTURES



The chimpanzee jazz band from the Selig Zoo in the west.



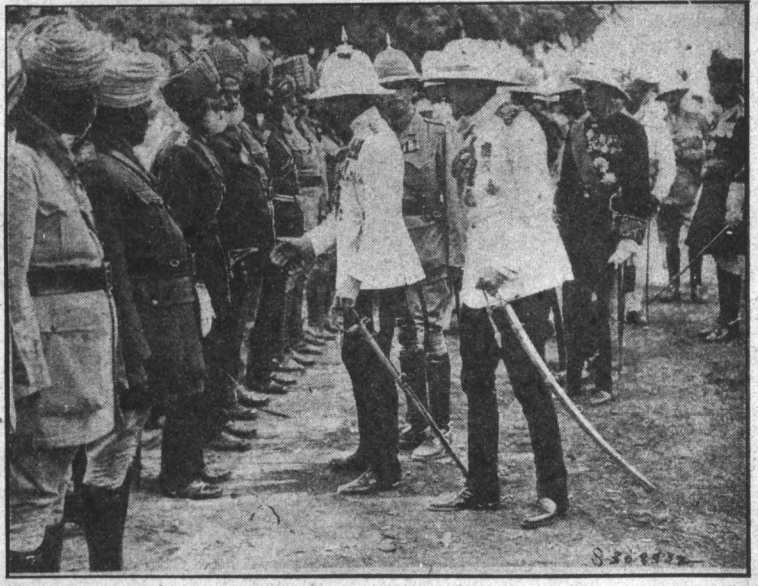
Ex-President Wilson on his sixty-fifth birthday.



Helen Keller, deaf and blind, is able to hear music through her finger tips.



Little Teddy Ayes gives the live stock a Christmas on the big Conway ranch in California.



The Prince of Wales reviews the war veterans of India at the time of his visit there.



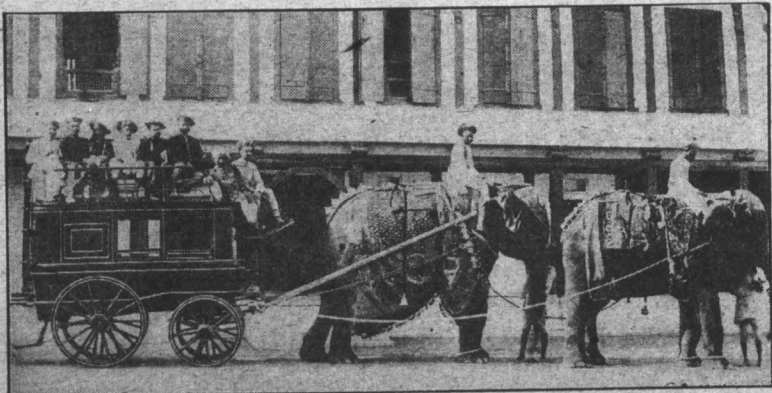
The tenor in the revived opera Ernani.



A de Francisci, designer of the American peace dollar, and his wife, his inspiration and model.



The Fairport, Ohio, mayor is also a chemist.



The old stage bus with elephants as motor power is used to convey sightseers to Indian ceremonies.



A record-breaking family. Sixteen children, that's all. Raised in California where things grow good.

THE BLIND MAN'S EYES

By William MacHarg and Edwin Balmer

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"I should think so. If any one in that position wanted to use the information brought to your father, he could make himself millions overnight, undoubtedly, and ruin other men."

"And kill Father too," the girl added quietly. "Yes," she said as Eaton looked at her. "Father puts nothing above his trust. If that trust were betrayed—whether or not Father were in any way to blame for it—I think it would kill him."

"So you are the one who is in that position?"

"Yes; that is, I have been."

"You mean there is another now; that is, of course, Mr. Avery?"

"Yes; here at this house Mr. Avery and I, and Mr. Avery at the office. There are some others at the office whom Father trusts, but not completely; and it is not necessary to trust them wholly, for all Father's really important decisions are made at the house, and the most important records are kept here. Before Mr. Avery came, I was the only one who helped here at the house."

"When was that?"

"When Mr. Avery came? About five years ago. Father had an immense amount of work at that time. Business conditions were very much unsettled. There was trouble at that time between some of the big eastern and the big western men, and at the same time the government was prosecuting the trusts. Nobody knew what the outcome of it all would be; many of the biggest men who consulted Father were like men groping in the dark. I don't suppose you would remember the time by what I say; but you would remember it, as nearly everybody else does by this: it was the time of the murder of Mr. Latron."

"Yes; I remember that," said Eaton; "and Mr. Avery came to you at that time?"

"Yes; just at that time I was thrown from my horse, and could not do as much as I had been doing, so Mr. Avery was sent to Father."

"Then Mr. Avery was reading to him at the time you speak of—the time of the Latron murder?"

"No; Mr. Avery came just afterward. I was reading to him at that time."

"No one but you?"

"No one. Before that he had had Mr. Blatchford read to him sometimes but—Poor Cousin Wallace—he made a terrible mistake in reading to Father once. Father discovered it before it was too late; and he never let Cousin Wallace know. He pretends to trust Cousin Wallace now with reading some things; but he always has Mr. Avery or me go over them with him afterward."

"The papers must have been a good

deal for a girl of eighteen."

"At that time, you mean? They were, but Father dared trust no one else."

"Mr. Avery handles those matters now for your father?"

"The continuation of what was going on then? Yes; he took them up at the time I was hurt and so has kept on looking after them; for there has been plenty for me to do without that; and those things have all been more or less settled now. They have worked themselves out as things do, though they seemed almost unsolvable at the time. One thing that helped in their solution was that Father was able, that time, to urge what was just, as well as what was advisable."

"You mean that in the final settlement of them no one suffered?"

"No one, I think—except, of course, poor Mr. Latron; and that was a pri-

replied to, which could have made any change in him. She studied him an instant more, fighting her disappointment and the feeling of having been rebuffed.

They had been following the edge of the road, she along a path worn in the turf, he on the edge of the road itself and nearer to the tracks of the motors. As she faced him, she was slightly above him, her face level with his. Suddenly she cried out and clutched at him. As they had stopped, she had heard the sound of a motor approaching them rapidly from behind. Except that this car seemed speeding faster than the others, she had paid no attention and had not turned. Instantaneously, as she had cried and pulled up on him, she had realized that this car was not passing; it was directly behind and almost upon him. She felt



vate matter not connected in any direct way with the questions at issue. Why do you ask all this, Mr. Eaton?"

"I was merely interested in you—in what your work has been with your father, and what it is," he answered quietly.

His step had slowed, and she, unconsciously, had delayed with him. Now she realized that his manner toward her had changed from what it had been a few minutes before; he had been strongly moved and drawn toward her then, ready to confide in her; now he showed only his usual quiet reserve—polite, casual, unreadable. She halted and faced him, abruptly, chilled with disappointment.

"Mr. Eaton," she demanded, "a few minutes ago you were going to tell me something about yourself; you seemed almost ready to speak; now—"

"Now I am not, you mean?"

"Yes; what has changed you? Is it something I have said?"

He seemed to reflect. "Are you sure that anything has changed me? I think you were mistaken. You asked if I could not tell you more about myself; I said I wished I could, and that perhaps I might. I meant some time in the future; and I still hope I may—some time."

His look and tone convinced her; for she could recall nothing he had asked about herself or that she had

him spring to the side as quickly as he could; but her cry and pull upon him were almost too late; as he leaped, the car struck. The blow was glancing, not direct, and he was off his feet and in motion when the wheel struck; but the car hurled him aside and rolled him over and over.

As she rushed to Eaton, the two men in the rear seat of the car turned their heads and looked back.

"Are you all right?" one called to Eaton; but without checking its speed or swerving, the car dashed on and disappeared down the roadway.

She bent over Eaton and took hold of him. He struggled to his feet and, dazed, tottered so that she supported him. As she realized that he was not greatly hurt, she stared with horror at the turn in the road where the car had disappeared.

"Why, he tried to run you down! He meant to! He tried to hurt you!" she cried.

"No," Eaton denied. "Oh, no; I don't think so."

"But they went on without stopping; they didn't wait an instant. He didn't care; he meant to do it."

"No!" Eaton unsteadily denied again. "It must have been—an accident. He was—frightened when he saw what he had done."

"It wasn't at all like an accident!" she persisted. "It couldn't have been

an accident there and coming up from behind the way he did! No; he meant to do it! Did you see who was in the car—who was driving?"

He turned to her quickly. "Who?" he demanded.

"One of the people who was on the train! That man—the morning we—the morning Father was hurt—do you remember, when you came into the dining-car for breakfast and the conductor wanted to seat you opposite a young man who had just spilled coffee? You sat down at our table instead. Don't you remember—a little man, nervous, but very strong; a man almost like an ape?"

He shuddered and then controlled himself. "Nothing!" he answered her clasp of concern on his arm. "Quite steady again; thanks. Just dizzy; I guess I was jarred more than I knew. Yes, I remember a fellow the conductor tried to seat me opposite."

"This was the same man!"

Eaton shook his head. "That could hardly be; I think you must be mistaken."

"I am not mistaken; it was that man!"

"Still, I think you must be," he again denied.

She stared, studying him. "Perhaps I was," she agreed; but she knew she had not been. "I am glad, whoever it was, he didn't injure you. You are all right, aren't you?"

"Quite," he assured. "Please don't trouble about it, Miss Santoine."

He dusted himself off with her help and tried to limp as little as possible; and when she insisted upon returning to the house, he made no objection, but he refused to wait while she went back for a car to take him. They walked back rather silently, she appreciating how passionately she had expressed herself for him, and he quiet because of this and other thoughts too.

They found Donald Avery in front of the house looking for them as they came up. Eaton succeeded in walking without limping; but he could not conceal the marks on his clothes.

"Harriet, I've just come from your father; he wants you to go to him at once," Avery directed. "Good morning, Eaton. What's happened?"

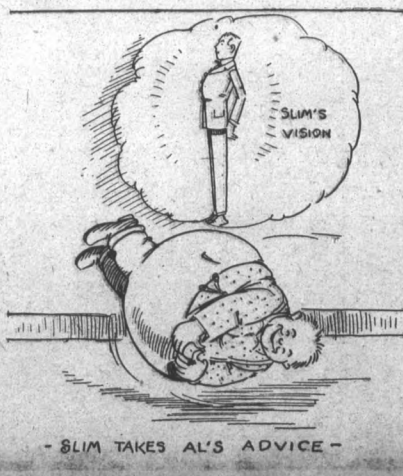
"Carelessness," Eaton deprecated. "Got rather in the way of a motor and was knocked over for it."

Harriet did not correct this to Avery. She went up to her father; she was still trembling, still sick with horror at what she had seen—an attempt to kill one walking beside her. She stopped outside her father's door to compose herself; then she went in.

The blind man was propped up on his bed with pillows into almost a sitting position; the nurse was with him.

(Continued next week.)

AL ACRES—Slim's Fat Does Not Roll Off Very Easily.



—By Frank R. Leet.

Where Moth Doth Not Corrupt

Our Weekly Sermon—By N. A. McGune

I DO not know whether the statements of Roger W. Babson are taken by farmers generally as law and gospel, as they are by business men. Perhaps farmers do not watch for the business forecastings of Mr. Babson, and his diagnoses of financial troubles, as business men do. But Babson has some pretty good things to say, and of late he has been turning preacher. When a layman turns preacher the folk in the pews usually wake up and listen, for a while at least. Babson has been preaching a good deal, and is still at it. He has put out several books, such as "The Future of the Churches," "The Fundamentals of Prosperity," and "Enduring Investments." The writer has read all of



these and thinks that "Enduring Investments" is the best of them. It goes without saying that Mr. Babson is a Christian man, a member of the church and a regular attendant. One of the things he is insisting on is, that the ministry should be paid

more. Judging from what he says, one would like to be the pastor of his church. In "Enduring Investments," he has a chapter entitled, "Men vs. Goods." It is a regular sermon. "As the nation became more prosperous, we began to lose sight of our original purpose; namely, the development of men. We became absorbed in the development of things. We forgot that our ancestors came to America to give little children a chance. Instead of giving them a chance, we put them into mines and mills." "In the early days, the white-steepled church on the public green was the most important edifice in the town, and the preacher at the church was the leading citizen of that community. As wealth increased, a great factory building became the most important structure and the president of the bank usurped the place of the preacher. We made property of more value than human life, and industry of more importance than spiritual growth." If your preacher said that, you would say he was getting socialistic, but these words are written by one of the most conservative of American business men, and one who receives thousands of dollars annually for his opinions as to the industrial and financial condition of the country.

HE goes on to tell an experience he had during the police strike in Boston. He says he went into Boston to one of the banks with some securities. Marching up and down before the bank were soldiers with rifles. Even the negro porter inside had a belt of cartridges around his neck, like a string of beads. Afterward, he went to a store and found that guarded in the same way. Everywhere there were the state troops guarding property. On his way home, he had to stop his automobile in one place, because of the crowd. Inquiring the cause, he learned that a poor family was being evicted from its home. The rent had been raised, and the family of a poor woman, her children and the grandmother were pushed out into the street. On getting home one of the letters awaiting him was one from a mother inquiring the address of a man who had gotten her daughter into trouble. That night, Mr. Babson sat thinking. He said he could almost see the bolshevist's point of view. Government is organized to protect property, not people.

"No soldiers were in Cambridge to protect that poor family which was being evicted from its home. No armed force was ready to guard that girl and her mother from devastation by a well-known man. Little heed is given to the security of souls.

THE Bible teaches us to put first things first, but we do not do it. We put first things second, and second or third things first. The author tells of finding an ancient newspaper. It was made up, not of divorce scandals, prize fights, and robberies. Three items received the most attention, the teachings of the churches, and the sermons, the progress of the government, and the important events in Europe. Before seed was planted, an entire day was devoted to fasting and prayer, that the crop might be bountiful. (This was a legal holiday in Massachusetts until a few years ago). When the crop was harvested, there was a day of thanksgiving and praise, to the God of harvests. When the question is asked, "What's the matter with business?" the answer is not always easily come at. "The truth is, that we are now trying to have legislation, banking, labor unions and other material forces take the place of the spiritual forces which have really developed America." "Enduring prosperity and enduring investments come from three factors: (1) natural resources; (2) labor, and (3) that intangible spiritual quality which led the Pilgrims to these shores three hundred years ago, which stretched the railroads across the prairies a hundred years ago, and which built factories, steamships and other things during the past decade. Moreover, these spiritual qualities can be developed only through the natural means which God devised."

A new kind of dishonesty has arisen among us. The grocer does not adulterate the sugar any more, but large numbers of people adulterate their work. The farmer no longer puts good apples at the top of the barrel, but deception permeates large sections of American society. Bluffing takes the place of honest work. Youth is not taught the value of hard work, as it once was, and parents indulge the silly talk such as, "I don't want my boy to have to dig and labor as I did. I want him to go to college so he won't have to work so hard." As if hard work ever hurt any one.

THE author of "Enduring Investments" believes that the first factor in education is the religious one. Religion should first be taught. But it is against the law now to even read the Bible in some states, and in his own state the author says that a superintendent or school board may be fined even for inquiring as to the religious beliefs of a prospective teacher. The same applies to political beliefs. In other words, an anarchist and an atheist might be engaged for your school, and you would not have the right to inquire beforehand as to his ideas on those questions.

The old type of business man went through three stages: First, to get on. Second, to get honor. Third, to get honest. This type is fast disappearing. To wait until one retires before he begins to do good with his money is foolishness. A man may not live to retire. No time is so propitious for doing good as the present. By so doing one lays up treasures where moth and rust do not corrupt, nor thieves break through and steal.

Blinks: The undercrust to that chicken-pie you brought me was abominably tough.

Waiter: There wasn't any undercrust to that pie, sir, it was served on a paper plate.—Boys' Life.



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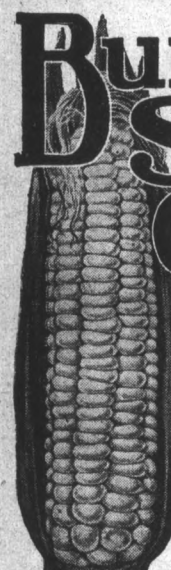
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Our Boys' and Girls' Page

A Club Boy's International Experience

THERE is one boy out of the five hundred prize-winning club members who visited Chicago during the International, who will surely remember his trip to the Windy City. His name is Quentin Friedhoff, of Warren, Michigan, Macomb county. Quentin, who is named after the dauntless Quentin Roosevelt, was taken with chickenpox the second day of his visit to the great exposition, and was quarantined for fifteen days. This young man is fifteen years old and he has had what amounts to a graduate and post-graduate course in scientific corn growing. In other words, he has been in club work four years and has made an intensive, first-hand study of this crop and demonstrated to himself what can be accomplished by proper methods. He won third prize in the corn exhibit contest.

The first year he was in the work the crop looked so poorly that Quentin decided that he wouldn't even take a chance on counting the yield, so the corn was cut and put in the silo.

Profiting by his first year's experience, he took better care of the crop the second year and made a yield of fifty-three bushels on one-half acre, winning the county championship.

The third year his crop was late in maturing and being afraid of frost he cut the corn a little too soon, so that it shrunk in the shock. In spite of this, however, it yielded fifty-six bushels on the half acre, or at the rate of 112 bushels per acre.

The fourth year, 1921 was Quentin's banner year. In the first place, he paid \$2.50 for one peck of corn on the cob, which he used for seed. The strain is known as Pickett's corn, a species of yellow Dent. The soil was a mixture and varied in different parts of the plot, which was on a knoll, part of it was a sandy loam and part a loamy clay. Four loads of barnyard manure were spread on the half acre and in addition 173 pounds of complete fertilizer was used. The plot was planted by hand on May 19, five kernels to the hill. It was cultivated three times and

hoed once. The first week of September Quentin cut his corn, and as it was pretty well matured and dried out, he was able to husk it the second week. It yielded seventy-three bushels of ear corn on the half acre, or at the rate of 146 bushels per acre, which not only won Quentin the county championship again, but gave him a free trip to the International Live Stock Exposition. It also places him in the running for the state championship, which is yet to be decided.

As the average yield of corn in Michigan is under forty bushels per acre, Quentin's achievement stands out as a shining example of what may be accomplished by scientific and intensive methods of culture.

STATE LEADERS' NOTES.

The determining of state canning champions and the prize trips and exhibit contests featured the month.

The state canning champions are: First year, Theo Swegles, Plymouth, Wayne county, 468½ quarts. Second year, Mary Piechiowiak, Bay City, Bay county, 1,103 quarts. Third year, Elvis Alford, Detroit, Wayne county, 185 quarts. Fourth year, Agnes Martin, Charlotte, Eaton county, 185 quarts.

Six canning club members were sent to the International Stock Show by the Wilson Packing Company, and Hazel Atlas Glass Jar Company. In addition to the four champions named, Beatrice Effrick, of Bay City, and Zeta Weigand, of Macomb county, were sent.

Michigan club members won five out of seventy prizes offered by the Hazel Atlas Glass Jar Company.

Some of the clubs in Newaygo county are carrying on the work for the fourth year, and are doing some splendid work. Although there is no one in the county in charge of the work, good local leadership makes it possible.

The New Hampshire Extension Service prints a one-act play called "All Alone in the Country," which is adaptable to rural meetings. Address Director J. C. Kendall, Durham, New Hampshire.

To the Interstate Corn Club Contest at Baton Rouge, Louisiana, Michigan corn club members sent ten exhibits or one hundred ears. Burlin Bradley, of Charlotte, Eaton county, won a first and a third place on his two exhibits. His awards were \$15 and \$5. Congratulations!

At the International Hay and Grain Show, Chicago, Michigan was in competition with several states which had made twenty-eight entries of club corn. Michigan won two places out of the five awarded. Joseph Warsop, of Athens, Calhoun county, won second place, and Quentin Friedhoff, of Warren, Macomb county, won third place. Their awards were medals. Club members are demonstrating their ability to uphold the honors which Michigan exhibitors have won at the past Hay and Grain Shows.

The Hazel-Atlas Glass Jar Company has awarded several prizes for the best individual jars on fruits, vegetables, or meats, put up in Hazel-Atlas glass-top jars.

The United States was divided into four sections, Michigan being included in the northern section. In this section Michigan canning club members won four prizes. They are as follows:



"Happy Days! I'll say!"

"MY brothers were fine upstanding youngsters. As for me—I was badly sweetened and nobody gave a hook-joint whether I became a plough-horse or a saw-horse. I WAS swapped around 'till finally I got a regular boss who said, 'Sound as a nut, except that blamed sweeney. We'll soon get rid of that.' And he did with Gombault's Caustic Balsam".

GOMBAULT'S CAUSTIC BALSAM does the work better than firing. Hair will positively grow back natural color.

A positive remedy for Curb, Splint, Sweeney, Capped Hock, Strained Tendons, Founder, Windpuffs, Skin Diseases, Thrush, Spavin, Ringbone, Throat and Bronchial Troubles. Will not scar or blemish. Supercedes all firing and cautery.

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SPRINGTIDE or ALL-HEART CABBAGE—A dwarf variety maturing in early spring. Quality unsurpassed.

PERPETUAL LETTUCE—All season head lettuce.

LITTLE MARVEL TURNIP—The earliest white globe turnip, crisp, solid flesh of delicious flavor.

Try this collection at our expense. The money you send will apply on your first order. Send 25c and ask for Sunrise Collection No. 135 and we will send by return mail the 6 packets of Earliest and Best vegetable seeds, our illustrated catalog and a 25-Cent Rebate Check to apply on your first order of \$1.00 or more.

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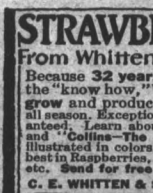
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Miss Grace Holtrop, Home Economics Specialist, Ready for a Ride in the Engine Cab.

Elvis Alford, Detroit, won second prize on peppers, also sixth prize on carrots; Jennett Mason, of Afton, Cheboygan county, won a special prize on Swiss chard, and Wilhelmina Nichols, of Quincy, Branch county, won a special prize on preserves.

According to the Michigan State Crop Report for November, the state average yield per acre of corn was 37.0 bushels. Michigan corn club members for 1921 averaged 65.6 bushels per acre.

Fifty-four club champions and leaders made up Michigan's delegation to

the International Fat Stock Show at Chicago, November 26 to December 1. Most of these champions had won the trip in live stock judging contests, although several were awarded by the Hazel-Atlas Glass Company.

Calhoun county, which won in the State Fair Stock Judging Contest, sent the team which represented Michigan in the non-collegiate judging contest at the International. William Peters, Deo Kellogg and Ovid Martin did the work. Michigan won eleventh place in the contest.

Modern Rural Schools

(Continued from page 35).

frigerator in the cold air flue, graded and seeded the lawn, planted shrubbery, and made files for the office. The girls of the Goodrich school are doing work that is just as utilitarian in its nature, such as serving hot lunches, making garments, and learning some of the lessons involved in the economics of a household. They purchase all materials and make an itemized report of the cost of each article made and of food served. The other rural agricultural districts are doing work of like nature. The main idea is to relate the course to the community life and activities.

A tract of land is provided for demonstration work in agriculture, which with the farms of the community, makes it possible to try out and verify investigations made in the laboratory and textbook work. The boys are taught something of the chemistry of the soil, food elements required for successful plant growth, and how to determine whether all of the elements are available in the soil. They are taught something of the physiology of plants; how they obtain food elements from the soil; the relation of availability of such food elements to moisture supply; the underlying principles of food manufacture in the leaves, and its dependence upon chlorophyll, sunshine and moisture supply. They are trained to be intelligent in regard to the use of plant and food elements in the form of commercial fertilizers. Through actual experiment they discover the limiting factor in the soil and the best form in which to supply it. They strive to learn how to produce as economically as possible, how to market farm produce to the best advantage, to know something of market demands, and to be governed accordingly in their farm operations. Attention is given to the economics of farm management and other problems that confront the average farmer.

The usual high school subjects are offered in addition to the vocational work and just as complete and thorough training is given in the essentials as is possible in any high school. Agriculture and manual training for the boys and home economics for the girls are given as part of the general science work and in lieu of courses in Latin, German or French. Students who have completed a high school course of this kind have just as much of an opportunity to develop as is possible in any high school and are well equipped to pursue a college course if they desire to do so. They are also trained to think in terms of the realities of life.

The school buildings of rural agricultural districts that are eligible to receive state aid must be properly heated, lighted and ventilated, must have an ample water supply, toilets with proper sewerage, library, and suitable equipment and apparatus for the teaching of agriculture, manual training and home economics. This insures suitable physical conditions and sufficient equipment to make possible thorough work. It means better health and more perfect physical development for the children and larger returns to

the district for each dollar invested in educational advantages.

The tax rate in a consolidated district as well as in a primary district varies with the assessed valuation. Other things being equal, the larger the amount of taxable wealth the smaller the tax rate will be. In many of the more sparsely settled communities or where the assessed valuation is extremely low, the tax rate is very high in the ordinary primary district and would be correspondingly high under consolidation. Many unfair comparisons have been made of the tax rate of several years ago in primary districts with present costs under consolidation of maintaining twelve grades in the consolidated school; and of the number of children who receive school advantages in primary districts as compared with the number to receive school advantages in the rural agricultural district.

There has been a marked advance in the tax rate and the expense of maintaining a one-room school during the past few years. The per capita cost in some instances is as high for even an eighth-grade school as it is in the larger rural agricultural schools with twelve grades. In any case, after the expense of providing the building and equipment for the rural agricultural school is taken care of, the cost of maintenance in excess of state aid provided will not be much if any in excess of that in the ordinary graded district maintaining twelve grades.

The rural agricultural schools become the community center. Meetings dealing with education, economics and rural life problems may be held; entertainments and social gatherings may be provided so that all may have an opportunity to enjoy the advantages along these lines that are superior to those possible in the small district system. In several of these schools moving picture machines have been purchased. Suitable films have been secured each week for educational work in the school and clean, wholesome entertainment has been provided for the people. All of this has a welding effect upon the entire district and helps to bring about a closer cooperative relationship between the home and the school. The parents as well as the children are better fitted to cope with real life problems and to build the type of community that may be desired.

Rural education is not local in its scope. It goes to the very basis of our democracy. It concerns every individual in this country. There must be no difference in the opportunity of one class of our boys and girls from that of another class. Both must have an opportunity to face the work unhampered by educational limitations inherited from another day under other conditions. The consolidated school is the best solution of the problem of rural education yet advanced.

What the state will do for the rural agricultural consolidated school: 1, it will pay \$400 per year for each vehicle used for transportation; 2, it will pay \$1,000 per year toward maintenance.

Motor Secrets That Quickly Put Me On Easy Street

By O. H. JUSTUS.

NOT so very long ago, I was in the rut with millions of other wage earners. Today I'm head of a prosperous business and on "Easy Street."

I'm not boasting. I merely want to let other men know what they can do—if they will! It was not luck or brilliance that put me where I am. I got there by simply using the common sense every man has.

First, I selected the business offering the biggest opportunities, present and future—auto and tractor repair. But I found that I could never get anywhere by "picking up" the trade—that to make real money I must know the mechanical secrets of motors—secrets that separate the \$2-a-day laborer from the \$40 to \$100



O. H. Justus and his big agency and repair shops at Parkersburg, W. Va.

a week of the trained mechanic. So, when I read one of Henry Rahe's advertisements, which said he could teach me those secrets in a few weeks in one of his shops, I wrote to him for the proof. And that letter started me toward "Easy Street."

A few weeks later I was a Rahe-graduate—master of the auto and tractor repair business—a free man with an assured future. From then on I never wanted for work an hour, and I was soon able to open my own shop, which ALWAYS has had from a week's to a month's work-ahead of it.

If you want to free yourself from drudgery, do interesting work at big pay or get into business for yourself, write to Henry Rahe today.

I Want Men! I'll Pay Your Fare To Chicago, Cincinnati or Kansas City

I want to start 500 more men toward "Easy Street" at once, just like I started Justus. YOU can be one of them, regardless of your age and education. You can get to my nearest school FREE, no matter where you live. If you want to get started QUICKLY, jump on a train for Rahe school nearest your home and I'll refund your fare the minute you enroll. Be sure to go to my nearest school to get advantage of this offer.

Master Instructors! Wonderful Shops!

Every instructor in my three schools is a MASTER of his business—trained by me and always under my supervision. Under these experts, in my wonderful shops, you, too, can quickly become a MASTER of this big-money business. No "book learning" necessary. Just a few weeks' work with tools on actual motors and cars and you'll be ready to open your own shop or earn a salary of \$40 to \$100 a week.

Special Money-Saving Price. I've always given the BEST auto and tractor course for the lowest price.



I've started 40,000 other men to "Easy Street." I can and WILL start YOU if you'll just say you want to go. DO IT NOW.

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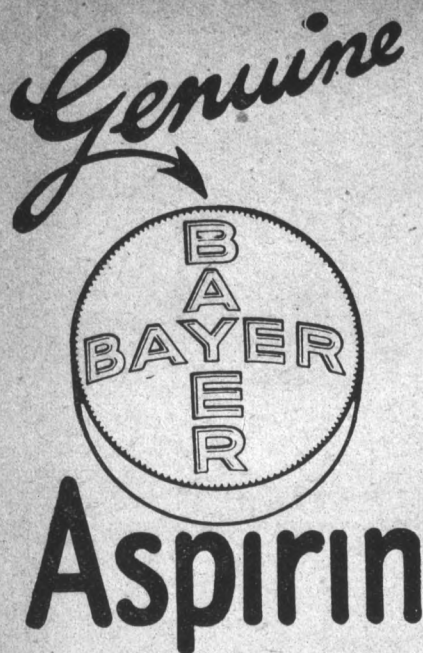
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Take your own case: If you don't know for sure whether tea or coffee is harming you, you do know that many are harmed by the drug element in tea and coffee, and that headaches, nervousness, or high blood pressure are symptoms which often tell that the drug, caffeine, is giving the nervous system too much jolt.

Probably you know, too, that some people can't drink a cup of tea or coffee at bed-time, and sleep well that night.

Where many have been harmed by tea and coffee, and you may be harmed, isn't it well to put the benefit of the doubt on your side before doubt becomes an unpleasant certainty?

There's charm without harm in Postum—a pure cereal beverage, rich in flavor, fully satisfying; the favorite table drink of thousands.

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"There's a Reason"

B Be what your friends think you are; avoid being what your enemies say you are, go straight forward and be happy.—M. M. Pomeroy.

Woman's Interests

On Judging Values

By Deborah

HAVE you visited your school lately? If you haven't, better make the effort this coming week; you'll certainly be repaid if only in the pleasure you give the teacher, and the added zest the children take in their work. Undoubtedly, there'll be more than that to make you think the time well spent.

Son's standings have been worse than usual this semester. They are never of the gold star variety, but lately they have more nearly approached the sort known technically as goose eggs. Perhaps teacher might solve the problem.

"The whole trouble is that your boy hasn't yet learned how to pick out essentials," said the teacher. "He takes his seat with the laudable idea of studying and getting a good mark. But all of a sudden he happens to think of something he wants to say to the chap across the aisle. He begins to talk, his mind is diverted from his work, there is a break, and a new start, all of which has consumed a portion of

the study period. When he learns that he can only do one thing at a time, and comes to the conclusion that the essential thing is to study in the study period and to talk at recess time his marks will go up. So far he hasn't learned how to judge values."

All very pedagogical and essentially true, but so far it hasn't helped bring up the marks. Somehow I wish he might go back to the good old days when the tingle of a hickory stick helped the youngsters to judge values. These new ideas of managing children read well, but they take so much longer to bring results, and are so much less sure, than the old ones.

But the idea of judging values and picking out essentials was all right for me; I am old enough to see how to work it. So many things to fill our days; so many things to give up or to hold. How are we to decide to which to cling? A good way is to look ahead a year, five years, ten years. Ask yourself what will be the result of following this course? Ten years hence will I wish I had taken a different road?

There's the matter of furniture or boys. So far I know of but one way to keep boys and unscratched furniture in the same family. Drive the boys outdoors as soon as meals are over, and do not let them in until bedtime. Make them sit down shoeless every minute they are in the house. This is not conducive to happy boyhood, or at all likely to produce the best type of man, but at least the furniture is safe.

I have often sighed for good looking furniture, but on the whole I think I prefer good looking boys. In this case the essential seems to be very plain.



It is almost as marked in other things. Temperance in eating, or indigestion; a spotless house and a mother too tired to be good natured, or a little dust and a happy mother.

Learn to judge values and to pick the essentials if you want a successful life.

HOUSEHOLD DEMONSTRATION IN UPPER PENINSULA.

RELATIVE to the subject of household industries for Michigan farmers, Miss Aurelia B. Potts, assistant state leader of home demonstration agents for the upper peninsula, states that her department is putting on a home-made rug project which it is hoped to standardize in certain communities so that a market will be found for them. Standardization of design and material is said to be necessary in order to market such goods. Indeed, assurances from several merchants have been forthcoming that they can handle these articles if the necessary conditions are observed. It is hoped that samples of such work can be furnished by January, so that if acceptable, a market for the output will be established at an early date. Miss Potts reports that women in her territory have made over two thousand dress-forms, and that this work is being continued in every community where it has started. The subject of household industries for farmers was recently considered by a committee consisting of Mrs. J. E. Lautner, Miss Aurelia B. Potts, Mr. A. G. Kettunen and Mr. G. E. Bishop, meeting in the office of the Upper Peninsula Development Bureau, Marquette, and it was determined that each member give individual attention to the idea and be on the watch for instances of successful home handicrafts throughout the peninsula.—C.

Rugs and Their Care

GIVE me the choosing of the family rugs and I care not who chooses the furniture, might be a good motto for the interior decorator, since so much of the good effect of a room depends upon the floors. Add to the selection of rugs, the finish of floors, and you have a good foundation upon which to build up a satisfactory finish.

To begin with, floors should never have a shiny finish. For one thing, such floors show the slightest mark, and if they are so highly polished that they reflect objects the effect is disastrous. A waxed finish, applied so as to bring out the natural grain of the wood is best, not only for the greater ease in taking care of it, but for the general effect of the room. Then in choosing the rug, select one of a color which will contrast with the color of the floor. Avoid garish colors which distract, but look for a touch of some hue which will give tone.

If your room is small, do not pick out a large rug which will cover the floor with the exception of a small border around the walls. Instead select small rugs, placed some distance apart. This will give an effect of greater size.

If the room is long and narrow, place small rugs crosswise of the floor. Rugs with large patterns or deep borders belong only in a large room.

Having selected the rugs the next important thing is to keep them in good condition. An important point in their care is to clean them daily with a good carpet sweeper, and at least once a week with the vacuum cleaner, or sweep with a broom. Inexperienced housekeepers are frequently distressed by the amount of fluff and loose wool which sweeps off new rugs, especially Axminster. This need not cause alarm, however, as it is only the loose lint which remains when the rugs are "sheered" when they are finished.

If knots or tufts stick up on the rug, cut them off with sharp shears. To pull them out means to start a break in the rug. Dragging heavy furniture across your rug is apt to pull out tufts.

Rugs should be washed at least once a year. To do this use a mild soap with warm water and a little ammonia. The ammonia restores the color. It is a good plan to have two pails of water, one filled with a strong suds and one with clean water for rinsing. Do only

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We Pay the Freight on the Empire Portable Smokehouse. No expense to you except the low first cost. The lowest priced portable smokehouse built. 3-hog size only \$23. Write today for all the facts, or order from this announcement. Satisfaction guaranteed.

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Johnson Fish Company, Box 44, Green Bay, Wis.

a small spot at a time, using only a little water.

Turn the rugs about every month or six weeks. In every home certain portions of the room are used more than others, and unless the rugs are turned about worn spots appear.

Fabric Tests

By Clementine Paddleford

BUYING cotton goods and paying linen prices, that is what fifty per cent of the women shoppers are doing every day, simply because they have not learned a few of the simple tests for linen fiber.

Linen is much more expensive than cotton and when linen prices are paid, linen should be demanded. Since the two fibers are rather hard to distinguish, especially when heavily starched and given a good finish, it is quite easy to deceive the buyer. Linen collars are frequently largely cotton, and handkerchiefs marked linen, often do not have a thread of linen, as is apt to be the case with the rather inexpensive embroidered handkerchiefs. Table linen sold in some shops is often mercerized cotton, cotton and linen, or even just ordinary cotton.

If the shopper would guard herself against cheap imitations she must remember that the linen fiber is long, smooth and quite lustrous when spun into a thread. That it is very strong and does not have so many fuzzy ends as are found in cotton. To distinguish linen from cotton the buyer must examine the threads carefully. Cotton is made up of short fibers which project from the surface of the thread and become fuzzy when the thread is rubbed between the fingers.

When broken, cotton has a tufted end, while the linen fibers break more unevenly and leave a more pointed end. The linen thread should be stronger than the cotton, it has more luster and is usually more uneven. Some kinds of linen have flat threads, but cotton is frequently finished in imitation of flat thread linen.

The old test of moistening the finger and putting it under the cloth is not always a sure one, as the moisture will not come through a heavy linen, or one with much starch in it, and it will come through a sheer lightly twisted cotton. A good test but an impractical one to use while shopping is to put a drop of olive oil on the cloth and press between blotting papers. The linen will become more transparent than the cotton. Another thing that is well to remember when buying table linen is that a good linen has a peculiar leathery feel which cotton does not have.

In buying linen it is also well to know the different weaves most appropriate for various uses. The typical weaves used for linens are damask, satin, or sateen weave, used for table linens and towels. This is especially good for the former, because of the very smooth lustrous surface it affords. However, it is not so good for towels as it does not readily absorb moisture, although it is very attractive.

Huck, an uneven weave, giving a good surface for the absorption of water makes splendid towels, and decorated with designs in damask weave, may be very handsome. Many linens in plain weaves are available for clothing, embroidery and the like. Coarse Russian crashes are popular for decorative purposes.

SILK POPLIN DRAPES.

Drapery houses are suggesting silk poplin for drapes, not only in living-rooms and dens, but in bedrooms as well. As it is not absolutely sun-fast, it should be lined with cream satin. This will prevent fading and give body to the drapes as well. All drapes not sun-fast should be lined.

Why bother to pump and carry water?

When you need water for any of the many household or farm chores it's much handier to open a faucet and secure an abundance of running water, under pressure.

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equipment will enable every member of your household to enjoy the convenience of running water—under pressure. This equipment means improved sanitation for the farm, suburban or small town home. With it you may install a modern bathroom, have water in the kitchen, on the lawn and at the barn.

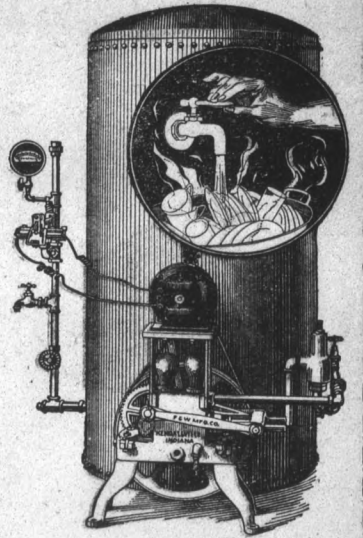
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HEAT-N-LITE Generator & Reflector

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Mr. Farmer's Wife is a Real Power Washer built especially for your needs to be run by a gasoline engine or electric power. Write for Free Catalog showing other styles, also special introductory offer. **BLUFFTON MFG. CO. Box 75 BLUFFTON, O.**

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\$3000 Secures 200-Acre Farm

\$10,000 Buildings; 4 Horses And 12 Cows, hay, ensilage, corn, oats, straw, binder, drill, manure-spreader, gas engine, machinery, vehicles, tools, included; on improved road near RR town, high school, ready markets; convenient city; 160-acres productive, loamy tillage; spring-watered, wire-fenced pasture; abundance wood; about 120 apple, plum, cherry, peach trees; fine 7-room house, piazzas, excellent view; 20-cow cement-barn, full line modern dairy fixtures, tile silo; garage, granary, milk and poultry houses. To settle affairs all \$15,000, only \$3000 needed, easy terms. Immediate action urged. Catalog free. J. L. Cross, 508 Bush Bldg., Flint, Mich.

100-Acre Michigan Farm With

Horses, Poultry, 16 Cows and Young stock, cream separator, blacksmith outfit, full modern implements, feed for stock, vegetables for winter included; convenient RR station, stores, etc.; 60 acres rich loam tillage, spring-watered pasture, fruit; good 2-story 7-room house, 50-ft. barn, windmill. To close out all \$5000, less than half cash, easy terms. Details page 76 Illus Catalog 1100 Bargains. FREE. **STROUT FARM AGENCY, 314 BC Ford Bldg., Detroit, Mich.**

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I offer eighty acres of land, forty of which are planted to oranges and pecan, the oranges to bear in 1922. Located on the main traveled road, one mile from depot in a thriving, prosperous town nine miles from gulf, five miles from tide water. Community settled with northern people; good markets, good soil, pure water and the best possible climate. Bargain. **P. J. COONEY, Foley, Ala.**

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\$500. down secures immediate possession of 20 acres near Gladwin, new house, barn, poultry house, 20 apple trees. Strawberries will pay for this in 3 years. Price \$1,600. I have other farms for sale. **U. G. REYNOLDS, Owner, Gladwin, Mich.**

WANTED To hear from owner of land for sale. **O. K. HAWLEY, Baldwin, Wis.**

Michigan Farms for berries, fruit, grain; stock, ranches. Write us your needs. We can fill them at right prices. **PORTER & WYMAN, Muskegon, Mich.**

10 acres, 7 in bearing orchard, \$2250, 1-3 cash. Also 10 acres, 2-3 muck, \$1250. **ORCHARD KNOLL, Spring Lake, Mich.**

I Would Like to hear from owners having 5 to 20 acre place for sale. Box 100, Route 5, Millington, Mich.

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EXPERIENCED poultry men all over the world depend upon Buckeye "Colony" Brooders for success. These brooders literally make three chicks grow where one grew before, cut the expense to half and reduce labor to a fourth.

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Hundreds of thousands use Buckeye "Colony" Brooders because they have learned their reliability, their economy and their convenience. Experience has proven beyond question that Buckeye "Colony" Brooders raise every raisable chick. With such equipment the gamble goes out of chick raising and you have the assurance of success.

Made in three sizes; burn coal, gas or oil. Sold on a money back guarantee by 15,000 dealers.

Proof For the Asking

Ample proof of these statements is contained in our new booklet, "The Revolution in Chicken Raising." You need the help of this booklet in your efforts. Sent free. Write for it today.

The Buckeye Incubator Co.

World's Largest Manufacturer of Brooders and Incubators.

811 Euclid Ave. Springfield, Ohio

Winter Care the of Turkeys

By N. Evalyn Ramsdell

WITH turkeys selling at forty cents per pound, live weight, it is surely advisable to take care of the birds that are to produce the flock next year. Many are lost every winter from careless methods, or from just letting the turkeys take care of themselves. Along in February each year, I have five and six orders for the lost young tom, these customers saying, "I have lost my turkey tom."

Beware of Colds.

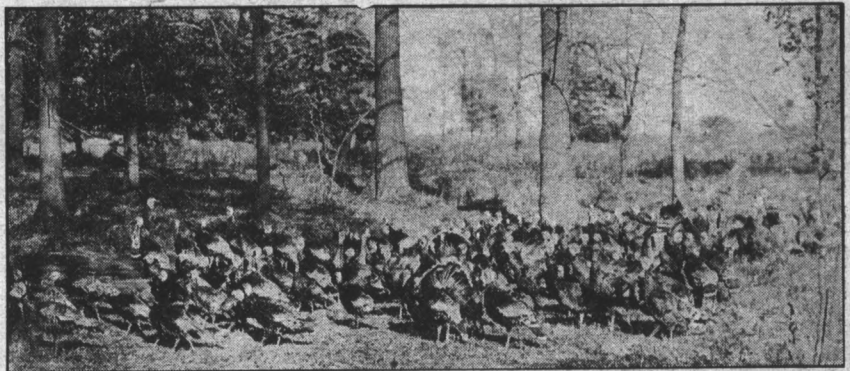
Perhaps the flock has formed the habit of roosting on fences or discarded farm implements, not high enough from the ground to be free from dampness or the odor from the droppings that have collected there. This will often bring on colds which may result in roup and other troubles. Give the turkey a good substantial and fairly high roost, placed, if possible, where it is protected from the north and west winds. Though he may do very well in the top of a tree, for best results, let

eight cents a pound more than the market on ordinary chickens and each capon weighs about double an ordinary fowl.

Because capons are lazy and refuse to exercise, Meneghini has had some trouble since the weather became cold in keeping them well. They are susceptible to colds and a slight draught in his coop caused him a peck of trouble. In a warm, well ventilated coop, Meneghini says any farmer ought to have little trouble raising capons to maturity and sharing in the velvet to be derived from them.—R.

POULTRY RAISING A BUSINESS.

SCIENCE and balanced rations appear to be more responsible for the larger production of eggs this winter than weather conditions. In western Michigan where some of the largest poultry farms in the state are located, farmers now are making chick-



Miss Ramsdell's Flock of Turkeys.

him have shelter from continued bad storms. Not confined in a closed house as you would shelter other fowls, but under a shed or any rude shelter that will protect him from the storms and wind. If he has had such a shelter when young he will willingly go to it on stormy days when he is grown. Let the floor of this shed be free from dampness, keep a clean litter of straw on it and on cold days, when the birds are inactive, throw some grain in the litter and let them work for it. It is a good plan to save some bundles of oats or wheat to scatter on the floor and let them thresh out the grain.

More than any other element of the weather, the turkey dislikes the wind. He will stand severe cold and not complain, but the wind seems to discourage him and he looks for some place to get out of it. Against the fence (running north and south) of my feeding yard, I place cornstalks, standing the bundles on end, making a solid wall of them. When the wind is east or west you will find the flock on the opposite side of the wall, enjoying the shelter and at the same time stripping the leaves from the stalks. This serves as roughage and is good for them and it is better that they should be exercising in some way than to be standing on one foot in the snow, with seemingly no interest in life.

Miss Ramsdell has made an extensive study of turkeys and turkey raising and is most successful, bringing to maturity each year over ninety per cent of birds hatched. This article will be followed by one giving best methods of winter feeding.—Eds.

SUCCESS WITH CAPONS.

MR. A. MENEGHINI, of Allendale, is showing poultrymen in his neighborhood how to double the returns from their flocks. Last year Mr. Meneghini caponized twelve of his cockerels and made so well out of them that this year sixty of them submitted to the operation. He is selling them in Grand Rapids at from five to

en raising more a specialty than a sideline, and as a result of culling out slacker hens, breeding egg laying strains and feeding egg producing rations, production has been materially increased without greatly increasing the number of hens in the flocks. The Holland Poultry Association culled out 65,000 birds and reports from that sections indicate that production from the smaller number of hens is about the same as from the larger flocks.—R.

RABBIT HUTCHES.

I am going into the rabbit business and expect to make a run of about six by six feet by twenty inches high, portable for each of my does, and a yard to turn the young rabbits into as soon as they are weaned. Would this be an advisable way of proceeding to raise rabbits?—S. R.

In raising rabbits most breeders depend on the hutches which are six feet long, two feet deep and two feet high. One-third is partitioned off for a nest, with a round hole for an entrance and a tightly-fitting hinged door in front which permits the breeder to clean the nest and examine the young. The remainder of the front is covered with a wire door.

The small portable yards might prove all right for exercise yards but some danger exists in using them. The does might dig out under the wire or dogs might jump in and kill the young rabbits. Many breeders avoid this risk with young stock by keeping them in an upstairs room in a shed or barn. Sometimes the young are raised to market age in the same type of hutches used for breeding stock. I once had a rabbitry with exercise yards. I dug a trench one foot deep around the outside and filled it with stones. This kept the rabbits from digging out and dogs from digging in.

A good open air rabbitry can be made by using a shed with the front open. Then the individual hutches can be arranged in sections and the hutches increased according to the amount of breeding stock that is retained.

POULTRY

DAY OLD CHICKS

HOMESTEAD FARMS

Leghorns

We are issuing a Bulletin that describes the kind of fowl the farmer now days wants. Send for this description of our Pure Breed Practical Poultry.

The highest class practical stock in Michigan; stock that each year is also now being shipped to poultry farmers of other states.

You will like particularly the White, Brown and Buff Leghorns of this breeding; they give the eggs. Also Barred and White Rocks; Reds; Wyandottes; Orpingtons; Anconas.

STATE FARMS ASSOCIATION
B3, Kalamazoo, Mich.

Chicks Baby Chicks

Order your baby chicks now from Michigan's largest practical Single Comb White Leghorn Egg, pullet and broiler farm. We supply all the eggs that go into our incubators from our own strain of Bred-to-lay S. C. White Leghorns hens [2000] and have a few thousand surplus chicks to spare at certain periods of the season.

We turned away orders for thousands of chicks last spring as our supply is limited and we absolutely refuse to sell anything but our own stock. So order early and avoid disappointment.

We guarantee satisfaction in every way.
Prices on application.

Macatawa White Leghorn Co., Inc.
R. F. D. 1, Holland, Mich.

Whittaker's R. I. Reds Both combs. Michigan's Greatest Color and Egg Strain. Free, by blood test, from bacillary white diarrhea. If you are interested in Breeding Stock, Day Old Chicks or Hatching Eggs write for our Twelfth Annual Catalog. It is free. INTERLAKES FARM, Box 39, Lawrence, Mich.

BARRED ROCKS Surplus breeding stock all sold. More hatching eggs next spring. More cockerels next summer and fall. From stock from Parks best pedigree pens. R. G. KIRBY, Route 1, East Lansing, Mich.

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

BOOKING—1922—ORDERS B-A-B-Y C-H-I-X

WHITE LEGHORNS AND MOTTLED ANCONAS Also Black Leghorns, Brown Leghorns, Buff Leghorns, Black Minorcas, R. O. Rhode Island Reds, Barred Plymouth Rocks, White Plymouth Rocks, Silver Wyandottes, White Wyandottes. WE HATCH eggs from Hoganized flocks on free range on separate farms. Send for Price List. Valuable Booklet with first order for twenty-five or more.

CRESCENT EGG COMPANY

Allegan Michigan

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

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

Barred Rocks Exclusively. Cockerels farm raised. Bred from M. A. C. championship show. Describe color, size, laying ability wanted. \$3.00 and up. ROSEMARY FARM, Williamston, Mich.

Barred Rocks That Lay Cockerels. Pullets. Look up my records at laying contests. Write for prices. G. Caball, Hudsonville, Mich.

Barred Plymouth Rock Cockerels, large birds from prize-winning heavy-laying strain \$5.00 each. J. A. Barnum, Union City, Mich.

150 EGG CHICK Both for \$19.75
Incubator and Brooder made of California Redwood, incubator covered with asbestos and galvanized iron, triple walls, nursery, copper tanks in incubator and brooder. 30 days' trial—money back if not O. K. FREE Catalog. 260 EGG INCUBATOR AND BROODER \$24.75. Ironclad Incubator Co. Box 77, Racine, Wis.

\$12.75 FOR A BADGER 140 EGG INCUBATOR
140 CHICK BROODER \$6.75
Built of California Redwood with double walls. Insulate top covered with wall board gives double protection. Hot water—Copper Tank—Self Regulating—Thermometer—Deep Nursery. Set up and shipped COMPLETE with all fixtures. Order DIRECT or send for descriptive circular. BADGER INCUBATOR CO. BOX 136 RACINE, WIS.

GET MORE EGGS

Make more money from your poultry. Let us prove to you that Lay or Bust Poultry Tonic will make them lay. Keep them free from disease and working overtime to fill the egg basket. Get eggs regardless of the weather. Satisfied users everywhere. Write today. Send 65c for package on our guarantee—money back if not satisfied.

THE CONN PRODUCTS CO., Dept. N, Waterloo, Iowa

POULTRY

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

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

Barred Rocks Vigorous cockerels of splendid type and barring. \$3.00 to \$5.00. CHAS. H. WRIGHT, Jones, Mich.

CHICKS FOR 1922

Prices reasonable. Selected and Culled S. C. Eng. Whites and Brown Leghorns, Anconas and Pure Bred Barred Rocks. Also eggs for hatching after Feb. 1, 100% Guaranteed. Postage prepaid. Catalogue free. FAIRVIEW HATCHERY, Zeeland, Mich., R. 2, John Bos & Son, Prop.

Choice S. C. White Leghorn cockerels line bred at \$5.00 each while they last. They are the big thrifty kind that beget persistent producers. MAOALWHITE POULTRY YARDS, Caro, Mich.

CHICKS, Have shipped thousands each season since 1904. Let us send our prepaid prices. Freeport Hatchery, Box 12, Freeport, Mich.

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

Northrup or Papes Strain. 100 S. C. Giant Black Minorca cockerels 6 mo. old \$2.25 each. M. SCHAEFER, R. 1, Essexville, Mich.

RHODE ISLAND WHITES win over all breeds at the egg laying contest. 30 eggs \$5; 50 \$8; 100 \$15 order from this ad. Some chicks. H. H. JUMP, R. 5, Jackson, Mich.

S. C. Rhode Island Red cockerels of the non-setting strain. Prices \$2 and \$2.50. HARRY A. SNYDER, R. 2, Byron Center, Mich.

Original Dr. Heasley S. C. Buff Leghorn flock. Egg Basket Strain. Officially Certified Eggs bred Winners at Chicago, Cincinnati, etc. Cockerels breeding hens and chicks, at bargain prices. Also bred to lay English Strain S. C. White Leghorn chicks for 1922. Discount on Early Orders. Hillside Hatchery Farm, R. 3, Holland, Mich. Successors to Henry DePre

Pullets and Breeding Stock 8 varieties, also ducks and geese. Send for prices. BECKMAN, 26 E. Lyon, Grand Rapids, Mich.

64 BREEDS Most Profitable pure-bred ducks, geese, turkeys. Fowls, eggs, incubators at reduced prices. 29th year. Largest plant. Large valuable poultry book and catalog free. R. F. NEUBERT Co., Box 314 Mankato, Minn.

A FEW SUGGESTIONS TO POULTRY SHIPPERS.

RECEIVERS of poultry in the consuming centers are having their usual trouble with dressed poultry. This is caused mainly by a discoloration of the poultry due to improper preparation. When shipments in this condition are received the commission house has great difficulty in disposing of the product and then only at a reduced price. This usually brings a complaint from the shipper because of the low price, which is often unjustified.

It is by far preferable to ship poultry alive for then, if it should arrive at a time of the week which would necessitate its being kept over a few days, it could be done without detriment. It can also be prepared just before sale by the butcher so that it will have a fresh and clean appearance.

But if it is desired that dressed poultry be shipped, the following suggestions can be followed to advantage: After killing and bleeding, dip the fowl in boiling water to loosen the feathers. Then following the lay of the feathers wipe them off; do not pull them off for that breaks the skin, and any break in the skin will produce a green spot in a few days.

After the feathers are off dip the fowl in boiling water several times again, holding it in a second or two. This is to sear over the outer skin slightly and to make it cling to the inner skin. Immediately after put the body in running cold water, or ice water, and leave it there for at least four hours. This is to take out all of the animal heat and besides will give the fowl a nice plump appearance. It is very essential to have the fowl properly chilled before shipping.

Another essential to consider, especially in the shipment of dressed poultry, is the time of shipment. Poultry can be sold to advantage if it arrives at the market not later than Thursday morning. If it arrives Friday night or Saturday morning, it comes after all the butchers have been supplied for the Sunday trade. As it is difficult to keep dressed poultry over several days the commission man then has to force a sale at a sacrifice price, which causes extra work for him and invariably results in a kick from the shipper.

Chickens are more susceptible to discoloration in keeping after being dressed than turkeys, geese or ducks. Therefore, they should be shipped alive, or greater care should be used in dressing them.

HATCHING GOSLINGS.

We are raising geese but do not have very good luck. The trouble is to give the eggs the proper care, so as to produce good hatches. We were wondering if they could be hatched in an incubator successfully.—C. K.

Goslings can be hatched in an incubator, but it is not usually recommended, as poultrymen have found that it is more difficult to get strong birds than when they are hatched by hens. This is because the eggs take so long to hatch and require so much moisture. Cutting a moist green sod and placing it in the bottom of the nest seems to help eggs to hatch better. Goose eggs take twenty-eight to thirty days to hatch. After the first week the hens should be removed long enough to give the eggs an opportunity to cool each day. It also pays to sprinkle the eggs often as they need plenty of moisture.

When you see a fine poultry plant do not judge at once that it is paying a large profit. When you see rather poor looking buildings do not consider the owner a failure with hens. Sometimes the owner of the big plant clips coupons to help pay his manager, while the owner of the small plant is saving some hen money each year to help pay off the mortgage on the farm.



Are your Hens Layers or Loafers?

Cheap Feed and High Priced Eggs

—make the industrious laying hen Queen of the Barnyard these days.

Don't let your hens become fat and lazy. Don't let the egg organs lie dormant all winter long.

You can speed up egg production.

You can make your hens lay now by feeding

Dr. Hess Poultry PAN-A-CE-A Universally Endorsed—Universally Used

—by the big ten-thousand-hen plants—by the average farmer with his 200 hens—by the back-yarder with his only a dozen hens to consume the table scraps. Pan-a-ce-a tones up the dormant egg organs, so that the proper amount of a hen's food goes to egg-making—and not all to fat, flesh and laziness when it's action and eggs you want.

A Pan-a-ce-a hen is always a hungry hen, an industrious hen—she gets off the roost winter mornings ready to scratch for her breakfast. You can depend upon it that the healthy, hungry, scratching, singing hen is the laying hen—the paying hen.

Always buy Pan-a-ce-a according to the size of your flock. Tell your dealer how many hens you have. He has a package to suit. Good results guaranteed.

25c, 75c and \$1.50 packages. 25 lb. pail, \$3.00; 100 lb. drum, \$10.00. Except in the far West and Canada.

DR. HESS & CLARK

Ashland, Ohio

Dr. Hess Instant Louse Killer Kills Lice

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Get the facts on our WORLD FAMOUS TOM BARRON ENGLISH WHITE LEGHORNS, BROWN LEGHORNS AND ANCONAS.

Simply write your name and address on a card or in a letter and we will do the rest. WRITE TODAY.

Don't buy chicks till you get this wonderful offer. We can save you money.

Superior Poultry Farms & Hatchery,
Box 2053, Zeeland, Mich.

BABY CHICKS Pure Bred for 1922



Bred-To-Lay from flocks selected for standard quality and production. We offer Exceptional values in following varieties: Leghorns, Rocks, Reds, W. Wyandottes, Orpingtons, Minorcas and Anconas. Our prices are right when quality is in consideration as this should be the main point in view. Get our big catalogue of Baby Chicks, Brooders & How to Care for Your Chicks after you have them, it is FREE, for the asking. Write today.

Wolf Hatching & Breeding Co., Dept. 10, Gibsonburg, Ohio

\$13.95 Buys 140 Egg-Champion Belle City Incubator

Hot-Water, Copper Tank, Double Walls Fibre Board, Self-Regulated Safety Lamp, Deep Nursery. With \$7.95 Hot-Water 140-Chick \$19.95 brooder—Both for only \$13.95. Freight Prepaid. East of Rockies and allowed towards Express. With this Guaranteed Hatching Outfit and my Guide Book for setting up and operating, your success is assured. Save time—Order now—Share in my \$1000 in Prizes. Or write for Free Poultry Book, Hatching Facts, & Jim Robins, Pres. Belle City Incubator Co. Box 14 Racine, Wis.

200 Eggs Per Bird FROM FLOCK OF 300



You want—not one—but a Flock of egg record White Leghorns. Our bargain prices on first quality Pedigree-sired Egg-bred Day Old Chicks will simply amaze you. We challenge the world to equal our prices on Day Old Chicks—eggs for hatching—breeding males—yearling hens—all shipped prepaid on approval, and direct from the center of the poultry industry. Write today for Free Bargain Price List.

UTILITY HATCHERY and FARMS
Dept. 7041 Zeeland, Mich.

130 Egg Incubator and Brooder \$17.75

Both Machines Made of California Redwood

If ordered together, Freight Paid east of the Rockies, Hot water—copper tanks—double walls—cedar air space—double glass doors—shipped complete, all set up ready to use.

180 Egg Incubator and Brooder - \$22.00
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Made of California Redwood—last a lifetime. Positively the best value on the market today. Order the size you want direct from this ad. 30 days trial—money back if not pleased. If not ready to order now, don't buy until you get our 1922 catalog.

WISCONSIN INCUBATOR CO. Dept. 92 Racine, Wis.

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Kills lice, mites, bed bugs, etc., affecting poultry. Spray or paint on roosts, etc. Gets body lice on chickens, too. Works while they sleep. No dusting, dipping, greasing or handling. Saves lot of unpleasant work. At most towns, at stores handling Lee Poultry Supplies. Write for information and FREE Book.

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Keep Chickens? Send for Free Sample Copy of American's 30-year-old Poultry Paper; tells how to select, breed, house and feed SUCCESSFULLY. 40-84 pages monthly, 4 mos. trial 25c; Yr. \$1.00

American Poultry Advocate, Box 21, SYRACUSE, N.Y.

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Improved S. C. White and Brown Leghorns. Bred to lay for the past twelve years. Lay large white eggs. Our eleventh year. Shipped by parcel post. Safe arrival guaranteed. Our catalogue tells you all about our English type White Leghorns, list free.

WOLVERINE HATCHERY,

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JUST-RITE LOOK! Baby Chicks 11-2 MILLION

chicks for 1922. POSTAGE PAID. 95% live arrival guaranteed. MONTH'S FEED FREE with each order. A hatch EVERY week all year. 40 breeds chicks, 4 breeds ducklings, Select and Exhibition grades. Catalogue free, stamps appreciated.

Nabob Hatcheries, Dept. 15, Gambier, Ohio

CHICKS

Seven varieties, from excellent pure-bred stock. 100% live delivery guaranteed. Parcel Post Prepaid. None better. Catalogue Free.

Lee's Poultry Farm & Hatchery,
Edison, O.

CHICKS

English Strain S. C. W. Leghorns, and Sheppards Anconas. Stock, eggs and day old chicks. We have a few April hatched S. C. W. Leghorn cockerels left that we sell at reasonable prices. Place your orders early. Write for catalogue. BYRON CENTER POULTRY FARM, G. C. Keizer, Byron Center, Mich.

Baby Chicks and Hatching Eggs

Thorough-Bred English White Leghorns, S. C. Reds, Barred Rocks. Big sturdy chicks, the kind that live and grow into fine producers, from the best laying strains obtainable. Priced right. 97 per cent delivery guaranteed. 1922 mating list and catalogue ready. Importer: Brummers Poultry Farm, Holland, Mich.

Baby Chicks \$15.00 per 100 and up

Hatching eggs, \$1.50 per setting to \$15.00 per 100. We are listing 17 varieties of pure bred fowls; Chickens, Geese, Ducks & Guinea, also breeding stock. Send for prices and circular. Booking now for early delivery. OLIVYTON HATCHERY & POULTRY FARMS, Wilmington, Ohio.

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We furnish Pure Bred Chicks of the finest quality from high egg-producing stock. Flocks built directly from laying contest winners. We have 17 breeds. Write for free illustrated catalog and price list.

J.W. OSSEGE HATCHERY, Dept. 99 Glandorf, O.

Baby Chicks English White Leghorn and Anconas. From the best flocks in Michigan. Order now for spring delivery. Catalog free. SILVERWARD HATCHERY, Zeeland, Mich.

B. Rocks R. L. Reds Anconas W. Leghorns B. Leghorns Minorcas

Let us book your order for an early hatch. Catalogue and price list now ready. H. H. Pierce, Jerome, Mich.

BABY CHICKS White and Buff Plymouth Rocks, Buff Plymouth Rocks, White Plymouth Rocks, Rhode Island Reds and White Wyandottes, 25 for \$2.25, 50 for \$3.00, 100 for \$3.80. FENTON CHICKEN HATCHERY, Box 244, Fenton, Michigan

Big English White Leghorns

Larger hens and better winter layers. My free catalog fully describes them and gives much valuable information. Send for it. A. Wauchek, Gobleville, Mich.

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For Sale Ringlet B. R. Cockerels, both light and dark, bred from prize winners, nicely barred, prices \$2.50 and \$5.00. E. T. MURPHY, Britton, Mich.

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

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

Additional Poultry Ads. on Page 55

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The reward of pure breeding; the accomplishment of quality. Success has again contributed more laurels to the already remarkable record of

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

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

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

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Containing blood of world champions.
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For Sale Register Guernsey bull calves out of A. R. dam, \$40.00 each if taken soon.
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For Sale Reg. Guernsey Cows or heifers, prices right.
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Grandsons of
King Of The Pontiacs
Ready for Service

From 27 to 32-Lb. Dams

Sire:--King of the Pontiac Segis No. 169124 who is by King of the Pontiacs and from Hillsdale Segis, a 33 lb. daughter of King Segis.

No. 1 Dam:--32 lbs. butter and 620 lbs. milk in 7 days.

No. 2 Dam:--28.8 lbs. butter and 30 day record of 118 lbs. as Junior four year old.

No. 3 Dam:--Granddaughter of Belle Korndyke, 2.77 lbs. butter and 640 lbs. milk in 7 days.

No. 4 Dam:--A great cow, 765 lbs. of milk and 28 lbs. butter in 7 days.

Other bulls out of good A. R. O. dams, with records from 18 to 20 lbs. butter as Junior 2 and 3 year old. All nicely marked and good individuals. Herd under Federal Supervision. CALL AND SEE THEM. For pedigree and information write Percy Nye, Mgr.

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James B. Jones Farms,

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HERE IS A GOOD ONE

BORN JUNE 2nd 1922 by MAPLECREST DE KOL HENGELVELD whose three sisters have each produced over 1200 lbs. of butter in a year. TWO of them former WORLD'S CHAMPIONS. Calf's dam by an own brother of a 1248 lb. cow. Write for pedigree.
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The Traverse Herd

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

TRAVERSE CITY STATE HOSPITAL
Traverse City, Mich.

"Top Notch" Holsteins

A Fine Purchase For Some Good Breeder.
Bull born Sept. 21, 1920, from a good A. R. O. daughter of a cow that produced 18,998 lbs. milk and 750.82 lbs. butter in one year, and is from a son of a 30 lb. cow that produced a 31 lb. cow, who in turn produced a 31 lb. cow.

His 6 nearest dams average 26 lbs. butter in 7 days. Handsomely marked in solid colors--a little more black than white. A good individual.

Price \$125.00 f. o. b. Howell.
McPHERSON FARMS CO., HOWELL, MICH.
All herds under U. S. Supervision.

A Good Note accepted in payment of finely bred registered Holstein bulls, all within reach of all. Write.
GEO. D. CLARKE, Vassar, Mich.

Reg. Holstein Bulls ready for service, sired by a 24 lb. grandson of King of the Pontiacs; also a few reg. cows and heifers; a carload of grade cows soon fresh. Priced right. The Long Lane Stock Farm, The Home of Michigan's Best Bull.
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and 170 Acre Farm. Owned by

Mr. H. C. Moore, Route 1, Durand, Mich.

WED. JAN. 25, 1922

The Jersey Herd Consists of 67 Head, of The Imported Jap, Interested Prince Breeding. There are SEVEN Register of Merit cows with their daughters and grand-daughters. Their records run from 446 lbs. 11½ oz. to 626 lbs. 2 oz. butter in one year, and all but one made at two or three years of age.

The herd bulls are great lot, and the herd all through the kind that go on and make good for their new owners. The Farm and Equipment sells as a WHOLE, Liberal Terms on both Farm and Cattle.

Send for a Catalog.

Col. D. L. Perry, Auct. Columbus, Ohio,
THE J. V. COTTA CO., Sale Managers, Crawfordville, Ind.

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,

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WINNWOOD HERD
Registered Holsteins

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

Our Junior Herd Sire

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

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

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

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

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

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

Cluny Stock Farm

Offers A High Class Bull at a Gift Price
Born Jan. 24, 1920

A big fellow ready for service. Mostly white, and a good individual.

Sire,--A 30 lb. son of King Segis Pontiac Konigen, whose daughters are making big Holstein history.

Dam,--A 24.9 lb. Jr. 4 yr. old daughter of Maplecrest Application Pontiac--whose dam made 35 lbs. butter in 7 days and 1344 lbs. in a year. Dam also produced 15,850 lbs. milk and 714 lbs. butter in 349 days. Next dam a 20 lb. Jr. 4 yr. old sister to three 1000 lb. cows. Next dam a 22.79 lb. cow.

Where can you duplicate this bull and his yearly record backing at anything like the price?

He is yours for \$150.00. Send for pedigree.

R. B. McPHERSON, Howell, Mich.

A BLUE RIBBON WINNER
YOUNG BULL

On the 1921 Show Circuit For Sale at a low price.

Out of an A. R. O. granddaughter of Pontiac Korndyke. Sired by our SENIOR SHOW BULL, Model King Segis Glista 32.37 lbs.

GRAND RIVER STOCK FARMS,

Corey J. Spencer, Owner

111 E. Main Street, Jackson, Michigan.

Herd Under State and Federal Supervision

Reg. Holstein Friesian bulls sired by a gdson of King of the Pontiac's, ages from six months to one year old, nicely marked and good individuals priced to move them to make room for winter calves. Herd under Federal and State supervision. haven't had a reactor in the herd. Henry S. Rohlf, R. 1, Akron, Mich.

Holstein-Friesian pure-bred bull calves, also good grade heifers; tuberculin tested herd. Prices are right. Larro Research Farm, Box A, North End, Detroit, Mich.

Bull Bargain, \$100 gets a light colored bull ready for service born Apr. 11, 1920, from 21.51 lb. dam, and sire whose six nearest dams av. 33.34 lbs. butter 7 days. Herd under state and Federal supervision. Oscar Walling, Wisconsin Farm, Unionville, Mich.

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

Reg. Holstein Bulls ready for service sired by a 42 lb. bull. Priced to sell, also a few heifers and calves.
B. B. REAVY, Akron, Mich.

Beef Producers!

Michigan Produces

The World's Best Beef

At The Lowest Cost.

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

SOTHAM'S EARLRIPE BEEF CONTRACT

Solves your problem--insures your success. A fair intelligent, satisfying system evolved from 87 years conscientious service to American Cattle Industry by three generations of Sothams. GET THE FACTS. Write now, or wire, Address

T. F. B. SOTHAM & SON,

(Cattle Business Established 1835)

Phone 250 Saint Clair, Michigan

HEREFORDS For Sale. Bulls, cows

RALPH CALHOON, Bronson, Mich.

Herefords

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

ALLEN BROS.,

(Farm at Paw Paw, Mich.)

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

Jersey Thoroughbreds

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

Hill Haven Stock Farm Shortage of feed compels me to sell a few reg. Jersey cows

Sired by grandson of Sophie 18th of Hood Farm. Also a few young bulls and bull calves out of above cows and sired by a line bred Flying Fox bull. Herd in process of accreditation. Prices reasonable.

F. CHAPMAN, Vandalia, Mich.

BUTTER BRED JERSEY BULLS

CRYSTAL SPRING STOCK FARM.

Silver Creek, Allegan County, Michigan.

The Wildwood Farm

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

Lillie Farmstead Jerseys Bull calves from R. of M. cows, COLON C. LILLIE, Coopersville, Mich.

BIDWELL SHORTHORNS

BUY A BULL

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

BIDWELL STOCK FARM,

Box D, Tecumseh, Michigan

Richland Shorthorns

Notice:--Shorthorn Sale M. A. C. Jan. 13th '22. We shall contribute five Heifers and five Bulls. Sired by some of the leading Bulls of the Breed. Attend this Sale and buy cattle in keeping with the times.

C. H. PRESCOTT & SONS, Tawas City, Mich.

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

The Maple's Shorthorns

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

J. V. Wise, Gobleville, Mich.

BUY SHORTHORNS

of Central Michigan Shorthorn 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.

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

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

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

HOGS

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.

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

ASKED TO ESTABLISH COMMISSION COMPANY AT DETROIT.

THE board of directors of the National Live Stock Producers' Association met at Chicago, December 28-30. Urgent requests were received to establish terminal commission companies for the handling of live stock shipped by cooperative associations at several points, including Detroit and Buffalo. The board will investigate the conditions surrounding these markets and, if the business of the markets and the attitude of the producers patronizing them warrant, the association will proceed at once to organize terminal cooperatives.

HAVE AMBITIOUS PROGRAM.

THE next meeting of the board of directors of the National Live Stock Producers' Association will be held in Chicago on February 14, 1922. The association proposes to market the live stock of the nation cooperatively according to the laws of supply and demand and in such a manner as to avoid the seasonal glutting of the market and the corresponding depression in prices. Stockers and feeders are to be purchased by cooperative companies which will have the best interests of the farmers at heart.

COW-TESTING RAISES MILK YIELD.

COWS owned by the members of one cow-testing association show an average production of 5,595 pounds of milk and 280 pounds of butter-fat for the past year. The average cow in this association gave 117 gallons more milk per year than the average in the state.

WHEN TO CUT ALFALFA.

THE time to harvest alfalfa for hay is always of interest to the practical farmer. In this connection some interesting results have just been published. It has been found that two cuttings taken when the alfalfa was in full bloom yielded as large a quantity as three cuttings taken when the plants were at the tenth bloom stage. However, the quality of the hay was superior when the three cuttings were made.

FOUR-HORSE HITCH FOR PLOWING.

THE hitch illustrated in the December 24 issue of the Michigan Farmer might do to use on a ditcher or for heavy road work, but is altogether too clumsy for a gang plow.

The essentials of a good hitch for a plow is compactness and lightness with sufficient strength. The hitch mentioned would be so heavy and long-gear that the plow would tend to ride on its nose and the tongue would have to be extra long. Then I do not think it wise to put one horse on the plowed land. The handicap would tire him out. What is more, if this was done, the plow would not cut two furrows as the pull would be such as to bring the first plow in the old furrow.

The fact is four good-sized horses can walk abreast on a twenty-eight or thirty-inch singletree with the ends nearly touching. No clevises or rings should be used. The two-horse evener should be connected to the four-horse one with strap irons so bent as to allow the right two-horse evener to saw under and the left one to saw over the four-horse evener. The horse on the right walks in the furrow and the other three on the land, when using a right-hand plow and the reverse with the left-hand plow.--F. L. DAVIS.

Says Sam: It's a question this year whether the farmer is the backbone of the nation, or the spare-ribs.

MICHIGAN LIVE STOCK EXCHANGE MEETING.

THE members of the board of the Michigan Live Stock Exchange held their regular meeting in Lansing, on Thursday, January 5. All members of the board were present, except two.

Among the questions discussed, and acted on, was the nomination of E. A. Beamer, of Blissfield, to represent the exchange on the board of the Michigan Farm Bureau.

It was decided that the members of the board of the exchange would meet with similar boards from Ohio and Indiana the last part of this month, for the purpose of perfecting plans to establish commission houses at the terminals to which the associations of these states ship stock.

It was unanimously voted to send a plea for help to prevent, and also a protest to our members of congress against taking away from the Department of Agriculture, the Bureau of Markets and the Forest Service; as both of these proposed changes is a direct blow to the farmer.

Mr. Munson, vice-president of the exchange, brought the per car charge for his associations, for the month of September, October, November and December, \$160.65, the largest amount received from one association at one time during the year. Most of the associations remit each month.

The annual meeting of the exchange is to be held in Lansing the sixteenth of February, at the city hall.

This board meeting finds the exchange in very good condition considering the unsettled condition of the markets, and the prevailing low price of stock, during the summer and fall.

WHY NOT?

MR. T. F. MARSTON, secretary of the Northeastern Michigan Development Bureau, who actively operates a large dairy farm near Bay City, sees no reason why a horse should not have a drink when wanted as well as a cow, so he has installed water bowls for his horses, the same as for the cows except that whereas the latter have a bowl for two cows, each horse has a bowl of its own. Mr. Marston states the time saved by the men in not having to wait while watering horses will pay for these buckets several times over in a year. There may be some objection to the practice but at any rate the horses seem to enjoy it. The cows have been so fitted out for the past thirty years.

DUROC RECORD RATES CHANGED.

THE American Association of Duroc Breeders has made a new rule for recording, effective January 1, 1922. This change affects members only. Members can now record animals under one year old for seventy-five cents. The price for animals under one year and two years is one dollar. The rate of \$1.50 to non-members is still in force. The directors hope to get the breeders in the habit of recording their animals at an earlier age and encourage them to record all animals they sell as breeders. The courts have ruled that the pedigree is a part of the transaction in the sale of an animal for breeding purposes and there is no good reason why a registry certificate should not go to the purchaser of every animal bought for that purpose. There will be less cause for complaint and less trouble for the buyer, and it will be the means of getting the beginner to keep up his records.

PRIZES FOR MICHIGAN.

THE National Spotted Association has just held their annual meeting and among other things have allotted \$150 for prizes to swine of this breed shown at the Michigan State Fair this coming fall.

Ship furs

—if you have not yet shipped to Fouke

Split your next shipment, skin for skin, grade for grade, send one half to the house you've been shipping to, and the other half to Fouke at once. You will get more money for the half you ship to Fouke, you can bet your bottom dollar on that.

(We believe that we are paying fur shippers 20% to 25% more for furs than any other house in the country. We want you for a regular shipper.)

FOUKE
FUR CO. 379 FOUKE BUILDING
ST. LOUIS, MO.



Dr. David Roberts Animal Medicines
44 Prescriptions—Sold by Druggists or Direct

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

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

Stamp Abortion Out and Keep It Out

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

HOGS

Brookwater Duroc Jerseys

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

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

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

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

DUROCS WITH QUALITY
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 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.**

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 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, Milan, Mich.**

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

DUROC-JERSEYS A few good brood sows.
E. D. HEYDENBERG, Wayland, Mich.

Brookwater Duroc Jerseys

Fall Boar Pigs
A chance to get one of the best and grow him out yourself. Prices \$25.00 to \$50.00. Write us or come to the farm.

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

BIG TYPE CHESTER WHITES

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

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

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

O. I. C. BOARS
shipped C. O. D.
J. CARL JEWETT, Mason, Mich.

O. I. C's.

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

O. I. C. Spring boars and gilts no akin. We breed and State Fair. We ship C. O. D. and Reg. free.
GEO. M. WELTON & SON, Alto, Mich.

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

O. I. C. & Chester White Swine
STRICTLY BIG TYPE WITH QUALITY. Have a few good service boars left that I will sell CHEAP. Also a fine lot of Gilts, bred for Spring farrow. They are of our Prize winning blood lines and priced to sell. **Newman's Stock Farm, R. 4, Marlette, Mich.**

O. I. C's. 4 last spring boars and 15 gilts, wt. 250 to 300. Also last fall pigs, good thrifty stock. Registered free. 1/4 mile west of Depot. Citrus, Phone. **OTTO B. SCHULZE, Nashville, Mich.**

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

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

O. I. C's Apr. and Aug. boars all sold, one spring and one July gilt left, two Sept. male pigs. Milo H. Peterson, R. 2, Ionia, Mich. "Elmhurst Farm."

LARGE TYPE P. C.

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

LEONARD'S Big Type P. C. Herd headed by Leonard's Liberator 458,255, the tallest, longest and Leaviest boned pig for his age in Mich. Call or write, stock in season. Fall pigs at Bargain Prices.
E. R. LEONARD, St. Louis, Mich.

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 P. C. some very choice boars double imbrune, out 100 lb. sire and mammoth sows from Iowa's greatest herds. **E. J. Mathewson, Burr Oak, Mich.**

One large type Poland China boar eight months old, \$20 if taken at once. Papers furnished with him. **Ward W. Dunston, Clarkston, 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.

Fire Sale is a place for bargains. We can undersell 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.T.P.C. \$15, \$20 & \$25

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

Large Type Poland Chinas

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

L. 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.**

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.

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.

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

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

YORKSHIRE BOARS

ready for service. **WATERMAN & WATERMAN, Packard Rd., Ann Arbor, Mich.**

SHEEP

Shropshires 7 yearling rams also ram and ewe lambs. Buttar and Senator Bly 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.

Registered Shropshire Rams

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

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

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

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

HORSES

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

LATEST MARKET REPORTS

GRAIN QUOTATIONS

Tuesday, January 10.

Wheat.
Detroit.—Cash No. 2 red \$1.16; No. 2 mixed and No. 2 white \$1.13; May \$1.21.
Chicago.—Cash No. 2 red \$1.15½; No. 1 hard \$1.11½; May \$1.08½.
Toledo.—Cash \$1.15; May \$1.19.

Corn.
Detroit.—Old Cash No. 2 yellow at 55½c; No. 3 yellow 54½c; new yellow Cash No. 3, 51c; No. 4, 48½c.
Chicago.—No. 2 mixed at 48½c; No. 2 yellow 48½c.

Oats.
Detroit.—Cash No. 2 white 42c; No. 3 white 39½c; No. 4, 34½c; 37½c.
Chicago.—No. 2 white 36½c; 37½c; No. 3 white 33½c.

Beans.
Detroit.—Immediate and prompt shipment \$4.30 per cwt.
Chicago.—Choice to fancy hand-picked Michigan beans at \$4.60@4.75; red kidney beans \$6.75@7.50.
New York.—The market is steady. Choice pea at \$5.15@5.20; do medium \$5; red kidney \$6.50@6.75.

Rye.
Detroit.—Cash No. 2, 84c.
Chicago.—79c.

Seeds.
Detroit.—Prime red clover, cash at \$14; alsike \$11.40; timothy \$3.25.
Toledo.—Prime red clover, cash at \$13.80; alsike \$11.80; timothy \$3.20.

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 \$13.50@14; wheat and oat straw \$12@13.50 per ton in carlots.

Feeds.
Detroit.—Bran \$30; standard middlings at \$30; fine middlings at \$30; cracked corn \$27.50; coarse cornmeal \$25; chop \$22.50 per ton in 100-lb. sacks.

WHEAT

Financial conditions again came to the fore in the grain market last week. The failure of a large grain firm and other disturbances led to a break in values. Part of the loss was recovered but confidence has not fully returned and influences of this character may continue for some time. Drouth still prevails over much of the southwest which has about half the total acreage and the average condition there is 61 per cent as shown by the official report. The crop can recover materially but low condition at the start results on the average in a low yield per acre and winter-kill above normal. Argentine wheat for January and February shipment is being offered to Europe at prices eight to ten cents per bushel cheaper than American hard winter via the Gulf. Europe is only buying on a hand to mouth basis at present so this may force our market lower.

CORN

Financial conditions caused a break in the corn market but otherwise prices show stability at the prevailing level. The Russian relief purchases amount to nearly 5,000,000 bushels and it is reported that about 750,000 tons of grain are to be taken for this purpose, most of which will be corn. Export sales to other European countries are rather liberal. Domestic demand also remains satisfactory. Lower freight rates thus far have failed to increase the movement from the country materially although receipts are slightly larger than before. A good deal of corn was contracted for to be shipped after freight rates were reduced, so that if the movement should enlarge much of it will be provided for in advance.

OATS

The first of the year has brought an increase in the eastern and southern demand for oats so that the largest sales in a long while have been consummated. Exporters have made inquiries also. The visible supply is decreasing rather slowly and values are unlikely to enhance a great deal as long as the demand can be easily satisfied from arrivals at primaries and small withdrawals from the supply already at terminals.

SEEDS

Seed markets remained firm as receipts are light and stocks at some of

the principal markets are decreasing. Prices usually advance during the early spring months when seeding starts, but the price of red clover is slightly out of line with farm grains and other seeds, particularly alsike and alfalfa so that further gains may be small. To what extent the tendency of farmers to plant legumes in place of corn and oats next spring will increase the demand for cloverseed is still problematical. Although the foreign crop was small, moderate quantities are being imported into this country.

FEEDS

Increased offerings of wheat feeds especially from the southwest have weakened the market slightly, while hominy, gluten feed, cottonseed meal and linseed meal are also quoted lower than a week ago. Demand for tankage remains exceptional and demand for other feeds fairly active in the light of prevailing economic conditions.

HAY

Inactivity describes the hay markets as receipts are light and demand is limited to immediate needs. Country loadings in some surplus sections are said to be increasing. The course of prices depends on whether lower freight rates increase demand as much as it may increase the supply at distributing markets.

POULTRY AND EGGS

Although receipts of eggs continue heavy for this season of the year, cold weather stimulated demand and made the market more firm. Prices are 10 to 15 cents lower than at the high point of the season and have fallen enough to stimulate consumption. According to the preliminary government reports cold storage holdings in the United States on January 1 were 904,000 cases compared with 408,000 cases on the same date last year and a five-year January 1 average of 982,000 cases. Poultry prices also are showing

more strength due to a sharp reduction in receipts at the leading markets.

Chicago.—Eggs, fresh firsts 39½c a dozen; ordinaries 34@35c. Poultry, hens 28c; springs 26c; ducks 28c; geese 22c; turkeys 35c.

Detroit.—Eggs, fresh sanded and graded 36½@38c. Poultry springs 28c a pound; large fat hens 28@30c; medium hens 26@27c; old roosters 15c; geese 20c; ducks 30@32c; turkeys 35c.

BUTTER

Butter markets continue weak as receipts and stocks are large while demand failed to expand. Top scores were more plentiful and lost ground as rapidly as the undergrades. Production is undoubtedly heavy. The report of the American Creamery Butter Manufacturers' Association for the week ending December 31 shows an increase of 48.4 per cent over the same week of 1920. Consumption is above the level of last year but has not increased as much as market supply. Foreign butter arrivals were less burdensome. At the close of the week an upturn appeared probable as holders were less disposed to sell at the lower level of values which also were more attractive to buyers. Prices for 92-score fresh butter were:

Chicago 35c; New York 36½c. At Detroit fresh creamery in tubs was quoted at 32@33c.

WOOL

Boston at which about 8,000,000 pounds mostly of low grade wools were sold, prices ranged from 20 to 25 per cent higher than at the December auction. Dealers were the chief buyers although moderate quantities went to manufacturers. The woolen goods trade still appears uncertain with minor interests waiting for the announcement of the scale of prices upon its new offerings by the American Woolen Company, the dominant factor in the trade. It is estimated that Boston holds only about 40,000,000 pounds of wool compared

with about 139,000,000 pounds exclusive of government-owned wools at this time last year. The large surplus of wools in sight twenty months ago has disappeared much more rapidly than was expected. Government holdings at this time last year were about 100,000,000 pounds but have now been reduced to about 11,000,000 pounds. Prices generally are 25 to 50 per cent higher than last spring.

BEANS

Fairly good trade reported in some quarters but market generally quiet and unsettled. Pea beans close and unsettled. Mediums irregular; some holders asking \$5.25 but few sales above \$5. White kidneys dull and easy; red kidneys weak.

POTATOES

After a period of weakness, potato markets turned upward in the latter half of last week. Northern sacked round whites are bringing \$1.75@1.90 at shipping points and \$1.85@2.10 in consuming markets. Total shipments for the season up to the end of December exceeded those of the same period in 1920 by over 15,000 cars.

APPLES

The movement of apples for the season up to end of December amounts to 45,705 cars of boxed apples and 22,979 cars of barreled apples compared with 28,318 and 57,850 cars respectively for the same period of 1920. Prices show little change, with Baldwins quoted at \$6.50@8 per barrel wholesale in consuming markets.

GRAND RAPIDS

The potato market in Grand Rapids and western Michigan this week continued to work higher with the demand steadily picking up. Shippers were paying from \$1.25@1.50 per cwt. Retailers are beginning to seek stocks and supplies held by consumers are reported running low. The hog market is showing stronger tendencies since the bulk of the fall and early winter run has been marketed. Lambs are also higher. Quotations are:

Vegetables.—Potatoes at \$1.20@1.50 cwt; dry onions \$4@5.50 cwt; celery \$1.50 box; carrots, parsnips and rutabagas \$1@1.25 bu; leaf lettuce (hot-house) 16c lb.

Live Stock.—Hogs, live at \$6@7.50; dressed \$9@10.50; cattle, prime heifers and steers, live \$5.50@6; cows at \$2.50@4; bulls \$3.50; sheep, ewes \$2@4; lambs \$7@8.

Grain.—Wheat, No. 1 red \$1.07 per bu; No. 1 white \$1.04; rye 65c; corn 60c; oats 40c; barley 80c; buckwheat \$1.35 per cwt; beans, white \$3.75 per cwt; red kidney \$5 cwt.

Fruit.—Northern Spy apples at \$2@3.50 bu; Ben Davis \$1.65; other varieties \$2@3 bu.

Greenville.—Potato market is higher; No. 1 white \$1.30@1.70 per cwt; beans, white \$3.75 per cwt; red kidney \$5@5.50 cwt.

DETROIT CITY MARKET

About the only easy line in the produce market is found in dairy products. Eggs are coming freely from the south and west and the production in Michigan is increasing. Demand is fair and prices are lower. Consumers are taking butter liberally. Practically everything else is firm. Business at the beginning of the week was not active in any line. Poultry was scarcely moving. The supply was short, but so was the demand. Farmers' deliveries were fair, but receipts by rail were not large. Potatoes, onions, cabbages and other important lines in the vegetable list were firm and the same tone extended to fruits.

Apples.—Good winter fruit \$3.50@4. Celery.—Michigan 40@50c per dozen and \$1.25@1.50 per box.

Cabbage.—\$1.75@2 per bushel. Onions.—Eastern \$7@7.25; Indiana \$6.50@7 per 100-lb sack.

Potatoes.—Michigan \$3.25@3.50 per 150-lb sack.

ONIONS

A reduction of nearly fifty per cent in the onion crop has resulted in a decrease of about 5,600 cars in the movement for the season up to December 31. Prices have been rising and are at the high point of the season with middlewestern red varieties quoted at \$6@6.50 per 100 pounds.

Live Stock Market Service

Wednesday, January 11.

DETROIT

Cattle.

Receipts 318. Market very strong.
Best heavy steers \$ 7.00@ 8.00
Best handy wt bu steers 6.75@ 7.00
Mixed steers and heifers 5.50@ 6.50
Handy light butchers.... 5.50@ 6.25
Light butchers 4.50@ 5.25
Best cows 5.00@ 6.00
Butcher cows 4.00@ 4.75
Common cows 3.00@ 3.50
Canners 2.25@ 2.75
Best light weight bulls.. 4.75@ 5.50
Bologna bulls 4.00@ 4.75
Stock bulls 3.50@ 4.50
Feeders 5.50@ 6.25
Stockers 4.25@ 5.50
Milkers and springers.... 40@ 75

Veal Calves.

Receipts 1,533. Market steady.
Best \$11.50@12.00
Others 4.00@10.00

Hogs.

Receipts 1,569. Market 25c higher.
Mixed hogs \$ 8.00@ 8.50
Pigs and lights 8.50@ 8.75
Heavies 7.25@ 7.50

Sheep and Lambs.

Receipts 1,841. Market is 25@50c higher.
Best lambs \$13.00@13.75
Fair lambs 9.00@11.00
Light to common 7.50@ 9.00
Fair to good sheep..... 5.00@ 5.75
Culls and common 1.50@ 3.00

CHICAGO

Hogs.

Estimated receipts today are 22,000; holdover 9,064. Market active and 15 @25c higher. Bulk of sales \$7.50@8; tops \$8.25; heavy 250 lbs up \$7.50@7.75; medium 200 to 250 lbs \$7.70@8; light 150 to 200 lbs \$7.90@8.25; light lights 130 to 150 lbs \$8@8.35; heavy packing sows 250 lbs up smooth \$6.35@7; packing sows 200 lbs up rough \$6@6.40; pigs 130 lbs down \$7.75@8.35.

Cattle.

Estimated receipts today are 7,000. Market 15@25c higher. Beef steers

medium and heavy weight 1100 lbs up choice and prime \$9@10; do medium and good \$7.15@9.10; do common \$6.25@7.15; light weight 1100 lbs down good and choice \$8.25@10; do common and medium \$6@8.35; butcher cattle heifers \$4@8.25; cows at \$3.50@6.40; bulls bologna and beef \$3.90@6; canners and cutters cows and heifers at \$2.35@3.50; do canner steers \$3.25@4.25; veal calves light and handyweight \$6.25@9.25; feeder steers \$5.25@6.65; stocker steers \$4.50@6.50; stocker cows and heifers \$3@4.75.

Sheep and Lambs.

Estimated receipts today are 12,000. Market strong to 25c higher. Lambs 84 lbs down \$11.75@13; do culls and common \$9.25@11.50; spring lambs at \$9.25@11.50; ewes medium, good and choice \$4.75@7.25; ewes cull and common \$2.50@4.50; yearling wethers medium, good and choice \$9.75@11.50.

BUFFALO

Cattle.

Receipts two cars.
Market is steady. Choice to prime shipping steers at \$7.50@8; good to choice shipping steers \$7@7.50; light native yearlings, good quality \$9@10; best handy steers \$6.25@6.50; fair to good \$6@6.25; handy steers and heifers \$6@6.25; western heifers \$5.50@6.50; light Michigan butchering heifers \$5.50@6; best fat cows \$4.50@5; cutters \$3@3.50; canners \$2.25@2.50; best heavy bulls \$4.50@5; heavy bologna bulls \$4.25@4.50; common bulls at \$3.50@4; best feeders 700 to 800 lbs \$5.50@6; medium feeders at \$4.50@5; stockers good \$4.50@5; light common \$3.50@4; best milkers and springers \$7.50@8.50; mediums \$30@40.
Calves, tops \$12.50; fair to good \$8@11; grassers \$3.50@5.50.

Hogs.

Receipts 15 cars. Market is lower. Heavy \$8@8.50; yorkers \$9@9.25; pigs \$9@9.25.

Sheep and Lambs.

Receipts one car. Market steady; top lambs \$13.75; yearlings \$10@11.50; wethers \$7@7.50; ewes \$6@6.50.

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.

Enlarged Glands.—Have a cow that came fresh last October. She has numerous small hard bunches on lower portion of udder and on teats. Several years ago her mother suffered from a similar ailment. I thought she might have been stung by bees. A. M. L., Fennville, Mich.—Paint bunches with tincture of iodine every day or two and they will soon disappear.

Shy Breeder.—We have a cow seven or eight years old that came fresh last July, since then she has been in heat several times, bred each time, but fails to get with calf. O. H. K., Wilson, Mich.—Dissolve one-quarter pound of bicarbonate of soda in one-half gallon of clean tepid water and flush vagina two or three hours before she is served and if you have leisure time, treat her daily for a week before she comes in heat.

Indigestion—Worms.—Have a three-months-old pig that is not thriving. She coughs, is some lame, has had diarrhea, but have it checked; have raised her by hand. I also have another three-weeks-old pig which is not thriving; the mate weighs forty pounds and is growing fine. W. N. R., Fremont, Ind.—Mix equal parts of fluid extract of spigelia and fluid extract of senna together and give some to pig twice a day until you believe the worms are destroyed. One-half of a teaspoonful is perhaps dose enough. Also give fluid extract of gentian three times a day as a tonic. One-half a teaspoonful is dose enough.

Unthrifty Mares—Worms.—I have a pair of mares that raised colts last summer. Both stock in hind legs and refuse to lay on flesh. I also have another mare which is troubled with worms; her coat is rough and she is thin. G. M., Farvell, Mich.—Perhaps you are not feeding them a fat-making ration, or you may not be feeding them enough grain, and do you keep them in a warm, well-ventilated stable? Give each mare forty drops of fluid extract of nuxvomica, one dram of fluid extract of cinchona, and three drams of Fowler's solution at a dose in ground feed or in drinking water. Give your other mare one dram of santonin, thirty grains of calomel and one-half ounce of powdered gentian at a dose in soft feed daily for six days.

A CORRECTION.

On the back cover of our issue of December 31, 1921, a typographical error was made in quoting the five-year subscription rate of the Michigan Farmer. This rate, which is \$3.00 was there quoted at \$2.00. No subscriptions will be accepted at the erroneous rate after this issue reaches the reader.

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