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VOLUME CLVIII NUMBER FIVE

DETROIT, FEBRUARY 4, 1922

CURRENT COMMENT

THE MICHIGAN FARMER SAYS:

Brain work in the winter time is a fine compliment to muscle work during hot weather.

Memory is a valuable faculty and should be cultivated, but the wise farmer will aid it by keeping dependable records.

If you are out to succeed at farming don't fail to solicit the fullest cooperation of nature.

The ability of the tiller of the soil to compare things present with those of the past is a most valuable asset in the farming business.

The Agricultural Conference

A REPORT of the Agricultural Conference held at Washington last week will be found in another column of this issue, from the pen of our special editorial representative who was a member of the conference. The results of the deliberations of this conference, so far as the actions taken are concerned, are noted in this report. But the ultimate results, as pointed out in a previous comment as likely to be the case, are almost certain to be of greater import to agriculture and to the country than these definite expressions of the conference, should they be carried out to the letter.

The deliberations of this body, in which leading men in many walks of life were brought into close contact with the economic problems of the farmers of the country and with farmers' economic views, are bound to have a beneficial effect in bringing about a better mutual understanding between class elements of the body politic. The result of these deliberations should also serve to strengthen public confidence in the sanity and fairness of the average farmer's viewpoint on public questions. Extremes of opinion are bound to be represented in the personnel of a body of this kind, but the reasonable fairness and conservatism of the majority prevailed, as is certain to be the case in any deliberative body in which representative, well informed farmers predominate. Another fact illustrated by the deliberations of this conference is that independence of thought and action which is characteristic of agricultural leaders. Perhaps the beneficial results which will follow the frank expression of agricultural opinion in the nation's capital may be

more far-reaching than the formal actions of the conference would indicate by further emphasizing the fact that agriculture is a basic industry which should have constant consideration in the formulation of national governmental policies. This is good public economy, and not in any sense class favoritism.

The Sugar Situation

THE announced policy of Michigan sugar manufacturers of withdrawing their field men and awaiting action on the sugar tariff by congress before reaching a decision on the terms of the contract to be offered is not particularly reassuring to the sugar beet growers of this state. In this connection a statement recently issued by the Department of Commerce, will be of interest. This statement estimated that the probable production of sugar for the present year would be from 300,000 to 400,000 tons less than the production for 1921. This prediction is evidently based on the conclusion reached in the statement that "The present low price level manifestly cannot long continue without restricting the production of sugar below the world's demands and again creating high prices." The significance of this statement is emphasized by the dissolution of the Cuban Sugar Commission on January 1, which leaves the market uninfluenced by any measure of artificial control.

If the above noted predictions are realized the result should be most favorable to the local sugar industry. Statisticians have reported a consumption of sugar during 1921 amounting to 4,107,328 tons, as compared with 4,084,672 tons in 1920. This is an increase of but little more than one-half of one per cent, compared with an average annual increase in production during the past century of over five per cent. But the estimated decrease in this year's production of approximately ten per cent, should, if realized, place the manufacturers of beet sugar in an advantageous position. Of course, this is but an estimate, the probable realization of which will not be admitted by the manufacturers, but it is a possibility which should be considered in all deliberations regarding the acceptance of contracts offered growers for this year regardless of the status of tariff legislation at the time contracts are offered.

Another factor which should be taken into consideration is the fact that last year's troubles of beet sugar manufacturers were not wholly due to the low price of sugar, but partly if not more largely to the fact that last year's beet crop was unusually low in its sugar content. While this fact may have been due to various causes, it is generally conceded that it was mainly due to unfavorable seasonal conditions. This was an unfortunate and unforeseen cause of loss to the manufacturers, but it should not form the basis of expectancy for the making of a contract price for 1922, and should not be accepted as such by growers.

The beet sugar industry is an important one to Michigan agriculture. It should be preserved by a spirit of fair play between manufacturers and growers. Present prospects for the early settlement of tariff policies are not flattering. We believe it would be an unfortunate mistake for the manufacturers to delay the offering of a contract to growers until a late date on this pretext and then try to secure acreage on a new basis. The sliding scale contract based on the price of sugar is the fairest yet used in Michigan. It protects neither party from the influence of an unfavorable season, but the manufacturer is no more entitled to such protection than the grower, who never has such crop insurance.

It is unfortunate that former attempts to arrive at a more equitable

arrangement through conferences between growers and manufacturers have failed. This is the ideal method of procedure, which would best foster the sugar industry in Michigan and insure its permanence. Without such a working basis the industry will suffer.

The Revival of Spelling Schools

METHODS of education are progressing rapidly. This we judge by the facilities for learning that are available to the children of today as compared with what we had when we were youngsters. Perhaps another indication is the fact that the children of today know many things that their elders did not know when they were young nor do not know now.

Whatever the other features of an educational system, it is important that it involves a great share of personal effort in the application of what is being learned. Thought and action are necessary for a complete learning.

Modern educational authorities are recognizing this fact, and are borrowing from the old system to cover this defect in the new. Spelling schools are again becoming popular.

Would it not be a good thing to get back in the rural communities the spelling school with its spirit of contest and its abundance of audience interest? It seems that it could be made one of the factors which will awaken again the old community interest which has gone to sleep because of the influence of the modern developments.

A Bit of History

THE annual meetings of a number of Michigan agricultural associations are being held at East Lansing this week. Among these is the Michigan Crop Improvement Association. Perhaps few organizations have done more constructive work along production lines for Michigan farmers than has this association.

Largely through its influence the state has been placed in the forefront as a producer of high-class farm crops. The long list of winnings in the hay and grain division of the International for 1920 and 1921 should satisfy the thoughtful reader that Michigan now occupies such a position. That the Crop Improvement Association has been a potent factor in developing and encouraging the production of a better type of farm crops in the state is patent to those acquainted with the history of this organization.

A bit of this history will be interesting. In 1905 a member of the editorial staff of this journal took the initiative in organizing the Michigan Corn Improvement Association. One of the important functions of this association was the holding of annual state corn contests in which growers competed for prizes. The first show was staged at Battle Creek during February of that year and from then till 1914 regular exhibits were held with the result that interest spread to scores of localities up and down the state and many county corn improvement associations were formed. The work did not stop with the farmers but became an important factor in boys' and girls' clubs.

In 1914 the directors felt that the organization should take on a broader field of work and to suit the name to this larger service it was changed to the Michigan Experiment Association. Under the new plan interest grew apace, there being 250 members in 1915 and 766 in 1916. This name, however, did not define the exact sphere of activity, so later the directors voted to call it the Michigan Crop Improvement Association.

The ideals formed and the interest aroused in better crops by the contests and programs held were largely instru-

mental in soliciting the cooperation of the college and the experiment station in developing superior varieties of crops adapted to Michigan conditions. When a new variety was sufficiently well established, seed would be sent out to members of the association from which they would grow crops of improved variety under farm conditions. The seed produced on the farms was then sold through the organization to other farmers, who again used the organization to dispose of their surplus seed. Thus it happened that in a comparatively short time Michigan was covered with Rosen rye and Red Rock wheat with Worthy and Alexander oats, while other good varieties followed in their trail.

Certainly an enviable record has been made, and the possibilities are infinite, and with wise management this organization still has the opportunity of rendering to the farmers of the state a further service of inestimable value.

Living, But Not Alive

A FEW weeks ago there came the culmination of a slow death. It was that of a hermit who lived near Traverse City.

This performer of the past tilled his farm with the primeval stick and with his steer as motive power. He lived in a semi-dugout which he shared with his steer and cow in winter in order to get the heat of their bodies for warmth. His idle hours, which were many, were given to the study of history, a record of the past.

Some men become recluses so that they may give to the world the value of silent thought. They live for they give thoughts which add to progress. But when a man lives entirely in the past he is as one dead, for the past is dead and the one who lives in it adds nothing to posterity.

We live as fully as we are active in progress. From this standpoint many of us are half dead and do not know it, for we dig ruts for ourselves so deep that they may well be called graves.

While living, let's live as fully as possible for our own enjoyment and for the benefit of posterity.

Me and Other Folks

THESE winter evenin's give a fellow lots of time to think and the other evenin' I got thinkin' about me.

Now, some folks ain't, but I am perfectly willin' to admit that my chief considerashun is me. Folks say "you and me," but they think "me and you." Self-preservin' is the first law of nature, specially human nature.

Maybe it would be fine to live alone in this world and do as I pleased, but it seems like it wouldn't be no fun nor no comfort without other folks.

Seems like other folks do a lot for a fellow, even if a fellow don't do much for them. Looks like a selfish man can get more for himself by bein' good to other folks. And the man what we call selfish ain't selfish at all, 'cause he hurts hisself more'n anybody else by his what-you-call selfish habits.



Now, while I am the chief considerashun of myself I ain't the chief considerashun of other folks. My dying tonight won't make no difference with other folks' breakfast tomorrow except maybe with Sophie and the kids and the people I owe money.

Kinda looks to me I ain't of much consequence to other folks but they is of lots of consequence to me. So for my own private sake seems I better be nice to other folks and polite like say, "You first." Then they say, "No, you first." Which is what I wanted all the time.

HY SYCKLE.

The Making of a Pork Chop

By W. M. McFadden

THERE are three kinds of domestic animals that furnish the principal part of the meat supply for the world in the form of beef, mutton and pork.

Cattle not only furnish beef, but the various dairy products as well. The quantity and more particularly the quality of the beef available is affected to a very large extent by the fact that cattle are bred for milk production. If cattle produced meat only, the beef supply as a whole would be far different from what it is.

Sheep are bred for the production of both wool and mutton. Time was when wool was the principal object sought, in the breeding of sheep. While that is not true in a considerable portion of this country at the present time, yet the quality of the mutton supplied to us is very much influenced by the fact that the sheep is a dual-purpose animal.

The hog is, therefore, the only one of the meat producing animals that is used for one purpose only. He is solely and only a pork making machine. Neither the quantity nor the quality of the pork products of the country is affected or modified by the fact that the hog has any other use, or any other excuse for existing, than that of meat production. In the breeding and improvement of hogs, there is no occasion to give attention to anything but the kind of an animal that will produce pork most economically.

The hog is essentially and pre-eminently a product of America. No other animal in America has been modified, improved and made suitable to the best possible use for which it is intended, to the same extent as has the hog. It is beginning to be realized and as time goes on, will come to be more and more recognized, that swine production and improvement is our greatest and most outstandingly American, achievement in live stock production.

Hogs of the type and characteristics that very largely predominate in this country are not to be found in any other country in the world. Nearly all our breeds of live stock owe a very considerable part of their excellence to importations from other countries. Animals equal to, and in many breeds superior to, any we have produced, are to be found in other countries. Frequent importations of a number of breeds of live stock, still take place from time to time.

No breed of hogs that depended on importations has ever made substantial or continued progress in this country. The type that is so much in the lead and has always been, is the American made type that is distinctly the result of the constructive genius and progressive methods of the pork producers of this country. The type produced in this country is represented very closely by four, or possibly five, of our breeds of swine. The government census figures indicate that more than eighty-nine per cent of the hogs in the United States are of the breeds to which reference is made.

The process of the making of the present-day hog that so largely and so nearly everywhere, is greatly in the lead in this country, began more than one hundred years ago. Corn, as a feed for domestic animals was unknown before the discovery and settlement of America. As corn became more and more abundant and available as a feed in the early settlement of this country, it came to be an important, and later on a determining factor, in the growing and improvement of hogs. The type and kind of hog grown was moulded and modified more and more as time went on to meet corn belt conditions and environments. This reached its greatest development as

an outstanding accomplishment during the last half of the past century when the great prairies of the middle west were improved and brought into corn production.

The growing and marketing of hogs followed the corn belt westward as it was developed. Every breed of hogs that has made substantial and sustained progress in this country, has been one that conformed rather closely to the type that first came into existence in this country, after corn became an important feed factor in the growing of hogs.

Not many years ago, the opinion was quite general, that the type of hog which was first developed in the corn belt and which always has, and still

does, so very largely predominate in the corn belt, would not meet with much favor in other sections where conditions were radically different. The outstanding feature of the past fifteen years in the hog business, has been the fact that this so-called corn belt type has gone out and made good in other parts of this country. As a result of this, there is only one small section of the country, and that not at all important in the number of hogs grown, where the American produced type of hog is not quite largely in the lead as to numbers.

This must mean that the inherent qualities which have been developed in our type of hogs are such as are needed and appreciated in those extensive

sections where corn is a minor or minus factor as a feed for swine.

Very substantial and very remarkable progress is being made by our type of hog in Canada, and if it continues, as in late years, swine growing will be revolutionized in that country. Evidences are not wanting that considerable attention is being given to our kind of hogs in several other countries. Perhaps the most notable indication of this was the cordial manner in which the View Herd was received, that was sent to South America, by the National Swine Growers' Association, in the year 1920. There certainly is no proper reason to regard as entirely unwarranted, the opinion that some hog men hold that the type of hog developed exclusively here in America is to become the hog of the world.

There are a number of things that will help to bring this about, but what is far more important, these things will also help to make hog growing and pork production more satisfactory and more profitable. While hogs are grown for one purpose and that the production of meat, and while a remarkably predominating proportion of the pork producers in our country have placed their seal of approval on a certain type of hog, yet there is a surprising lack of recognition of the outstanding facts concerning the growing of pork, on the part of a great many people who engage in raising hogs.

There is no very apparent reason for the fact that there are so many persons who experiment with several numerous instances, within the knowledge of most of us, where a farmer will try a boar of one breed one year and of another the next and follow this up kinds and breeds of hogs before they are able to determine the kind they think they will find most satisfactory. We have a great many persons who have no definite or fixed policy in the production of pork hogs. There are with changes which will include most or all of the various breeds and types of hogs.

It would be worth a vast sum in profits to pork producers if there was a more general understanding of what hog production has been in this country, and of the fact that the outstanding American type has always made good and is solely the reason why this is the greatest hog country in the world.

It is of no importance or significance whether the pork marketed has been produced under a coat of red hair, of white hair, of black hair, or a combination of colors in the matter of hair. The important thing, and the one which nearly always determines whether there will be profit or otherwise, is that the rugged, prolific, quick-maturing type that has received the seal of approval from the hard-headed farmer pork producers of the United States, shall be the one used.

There should be a more general recognition of just the kind of hog as to characteristics, of general form and conformation, size at maturity, and early marketing possibilities that has always made good for the farmer, who consistently produces it as a market proposition.

We do not have anywhere near the proportion of herds of market hogs that we should have, that maintain and market consistently over a series of years a uniform kind of hogs. It is this kind of market herds that require pure-bred boars of high class to keep up their standard and an increase in the number of such herds, would add to the profit in the production of pork and improve the demand for pure-bred sires.

One of the things that doubtless has
(Continued on page 140).

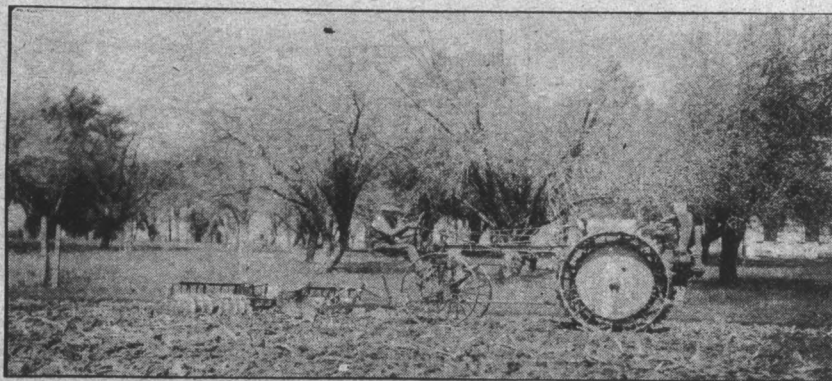
Discing In Oats with Tractor

By J. L. Justice

DISCING in oats in the corn stalk ground with the tractor is a job that may be greatly facilitated by employing a few simple precautions. Some of these may be used to advantage where horses are used. The tractor brings up new problems to us very forcibly and it is only by experience that we learn to utilize it to the best advantage in all farm operations.

The first thing we have found important to observe is to break the corn stalks before attempting to disc them. A stalk cutter might be an advantage,

soil is an extremely hard matter, hard on the soil, hard on the disc harrow and hard on the tractor. The disc will pull a third to half harder in soil that is soggy and heavy. It will leave the surface uneven and cloddy for it cannot be worked smooth in that condition. When it is wet enough to need scrapers on the disc blades it is advisable to stay out of the field. If the soil works up nicely with the disc harrow the oats will go into a fine seed-bed and if clover seed is sown with the oats a larger per cent of it will



but the next best and most economical plan is to drag them down or break with a long heavy pole some morning very early while the stalks are frozen hard. To simplify matters, break them in the same sized lands that will be taken with the disc harrow, so that when the discing is done the stalks around the land will all be lying in the same direction. It is well to make these lands of pretty good size in order to lessen the frequency of turning the corners. Many narrow lands make many short turns near the finishing point and it is necessary to swing out in a circle at the ends to complete the work nicely.

Stalks will be cut up much better by the disc blades if they have had three to five nice drying days before discing. The well-cut stalks are also more readily mixed up with the soil and a leveller surface results. Of course, if the disc blades are dull or nicked badly not so good a job can be expected unless the harrow is weighted down considerably. Sharp blades will not only chop up the stalks well, but will have greater penetration of the soil and reduce the fuel and oil consumption of the tractor.

Sometimes it is a bit hard to find soil conditions ideal or even approaching ideal at early oat-sowing time, but the nearer it is to a tillable condition the less fuel and oil the tractor will consume. Pulling a heavy disc in wet

be covered and germinate rapidly. Where land is double disced the oats and clover seed may be sown and harrowed in immediately; the crop so handled is put in in excellent shape and in an economical manner.

We use a tandem disc and believe it to be more desirable than a single disc, because the disc blades following behind the front set are so arranged as to pulverize or turn the soil that the front set has missed or not pulverized sufficiently. Once over with the tandem disc completes the work. Penetration of the soil can be increased by adjustment of the angle of the discs, but sometimes it is necessary on exceptionally hard ground to weight the disc down with stones or sandbags.

If the cornstalks have not been broken trouble will be caused from dry stalks getting in the exhaust pipe and catching fire, which may prove to be a dangerous matter.

Also pieces of stalks and shucks will fly into the radiator which causes the motor to overheat; this debris is difficult to clean from the small spaces of the core. To obviate this we simply put a piece of wire fly screen over the front of the radiator, then anything that is small enough to pass through the by screen will pass through the radiator core. This simple precaution may save several hours of delay and other troubles that often follow after an overheated motor.

LATE AGRICULTURAL NEWS

MIDLAND COUNTY FARM BUREAU ELECTION.

WILLIAM SHEARER, of Hope township, was elected president of the Midland County Farm Bureau, and John Vincent, of Ingersoll township, was re-elected secretary-treasurer of the bureau, and the annual meeting. The delegates were guests of the Midland Chamber of Commerce at luncheon, and County Agriculturist McMurry explained the business and educational plans of the bureau.—M.

TO ADVERTISE GRAPES.

GRAPE growers interested in Paw Paw Cooperative Association are beginning a movement looking to an extensive advertising campaign to increase consumption of table grapes. They are attempting to interest growers in Ohio, Pennsylvania and New York—the other Concord states—in the proposition. This association last year sold the grapes of its 164 members for \$93 a ton net. Sales aggregated \$235,000. New officers are: President, M. D. Buskirk; vice-president, L. E. Shepard; secretary-treasurer, Leo Prater; directors, Thomas A. Woodman, Fred Woodman, Charles Morrison and Volney Glidden.—R.

WEST MICHIGAN BUREAUS MAY CONSOLIDATE.

CONSOLIDATION of the Western Michigan Development Bureau and the Michigan Tourist and Resort Association is being recommended by a committee representing the former body. The proposed merger is advanced as an economy move, it being suggested that the officials of the one organization could conduct the affairs of the two. Definite action on the proposal probably will be taken during February.—R.

CALHOUN ALFALFA ACREAGE TO INCREASE.

INTERESTING facts were brought out in the alfalfa campaign recently conducted by County Agent Roland in Calhoun county in cooperation with the crops department of the agricultural college. Eight hundred acres of alfalfa are now being grown in the county. During the year 1922, this acreage will be more than doubled. The increase will be close to a thousand acres sown by 112 different farmers. The smallest plot will be two acres, while the largest seeding will be seventy acres. The seventy-acre plot will be put in by the Battle Creek Sanitarium Lakewood Farms.

The campaign in Calhoun county lasted for four days. A total of thirty-five barn meetings was scheduled but on account of badly drifted snows and the season's coldest weather, it was impossible to get to five of the meetings; however, the alfalfa message was taken to more than 600 farmers and the good, which was a 100 per cent increase in the county's alfalfa acreage, was reached and slightly surpassed. The alfalfa campaign will be supplemented by an alfalfa tour, which will be held about the first of June.

GRAND RAPIDS DAIRY FARMERS ORGANIZE.

DAIRYMEN in the Grand Rapids area have formed a Grand Rapids Milk Producers' Association for the purpose of securing a "square deal" from the distributors. An effort will be made when the organization is completed to secure a fifty-fifty split in the price paid by consumers for milk.

Officers of the association are: Pres-

ident, William Thomas, Cannonsburg; vice-president, William Blake, Dutton; secretary, John Platte, Ada; treasurer, Anthony Huyser, Caledonia; directors, William Blake, Dutton; Ashley Ward, Ada; O. J. Howard, Lowell; Cary Young, Rockford; Clifford Paul, Lowell; William Snyder, Grand Rapids; Thomas Slater, Grand Rapids; Steven DenHouten, Ada.—R.

RESOLUTION ADOPTED BY BEET GROWERS.

THE following is the text of the resolution adopted by the members present at the recent annual meeting of the Michigan Sugar Beet Growers' Association:

Whereas, Michigan is one of the large sugar-producing states and also located within the freight zone of greatest competition from imported sugar, we therefore ask for adequate protection to compensate for the difference in cost of production, here and abroad.

Michigan has advanced labor and railroad costs, together with high taxes, both state and national, and with these hang-over incidentals of the great war, cannot compete with the low wages of Europe or Cuba, measured in our money. To effect a minimum of adjustment, a duty of two and a half cents per pound against Europe, and two cents on Cuban sugar must be provided or Michigan must cease to produce beet sugar. This duty, however, must be reflected in the price paid to the grower who is the primary producer of sugar and we ask the aid of all organized agriculture in maintaining the beet sugar industry in the United States. If home production ceases and

dependence is upon imports, we will pay advanced prices for sugar in addition to an industry wrecked which is paying millions of dollars to labor and utilizing many acres which does not compete with other farm crops.

PRODUCTION CAMPAIGN IN KENT COUNTY.

A CAMPAIGN to urge and show farmers how to grow more farm produce per acre is being pushed in Kent county by County Agriculturist K. K. Vining. A series of meetings, beginning February 8 and continuing off and on until February 24, are to be held in the county with crop and soil specialists giving lectures on soil improvement, cultural methods, control of diseases and importance of good seed of the proper varieties.—R.

OPPOSES ATTACKS ON DEPARTMENT OF AGRICULTURE.

CHARGING that the proposed transfer of the United States Bureau of Markets from the Department of Agriculture to the Department of Commerce, and the Forestry Service from the Department of Agriculture to the Department of Interior, promises to be detrimental to the best interests of the farming population in that such transfers would cripple the effectiveness of the Department of Agriculture, the Michigan State Farm Bureau executive committee on January 10 protested such action in a resolution addressed to Michigan senators and congressmen in congress now considering the proposed transfers.

Organized agriculture is up in arms

over what it considers two attacks on the United States Department of Agriculture. The American Farm Bureau Federation has said that whereas the Bureau of Markets is now where it can help the farmers, transfer to the Department of Commerce would place it where the interests of the middleman come first.

PUBLIC HEARING ON TELEPHONE RATES.

APPRAISAL of the properties of the Michigan State Telephone Company having been completed, the Michigan Public Utilities Commission has set February 14 as the date for the hearing on the application of the telephone company for an increase of its rates, tolls, rentals and charges in all its exchanges in the state of Michigan. The hearing is to be held in the offices of the commission at Lansing and all interested parties have been invited to attend and present such evidence and argument as they deem proper, according to an announcement made by the Utilities Commission on January 19.

SAGINAW FARMERS UNITE TO DO MARKETING.

PLANS of procedure of the newly formed cooperative marketing association of farmers from Buena Vista, Spaulding, Saginaw, Kochville, James and Swan Creek townships in Saginaw county, was decided upon January 19 at a meeting in the farm bureau office. About one hundred farmers who expressed a deep interest in the tentative plans for the association, attended the organization meeting. They chose the following board of directors: John Ure, Charles Stacey, Christian Dengler, William Root, Sr., Carl Leidlein and Louis Burger. Two or three warehouse properties are offered the association, two of which are equipped for handling beans in large quantities, and with ample storage facilities, and it is expected that a decision will soon be reached as to purchase of one of the available plants. All are located on railroad sidings in Saginaw and have convenient unloading docks for teams.

GRATIOT COUNTY TO APPOINT NEW AGENT.

THE newly elected officers of the Gratiot County Farm Bureau, who came into office by vote of delegates at the annual meeting recently held, are: Robert Blanck, Fulton township, president; J. M. Barnhart, North Star township, vice-president; R. C. Munson, North Star township, secretary and treasurer.

Clayton Cook, the efficient county agricultural agent for the past year, declined to serve for the ensuing year, and applications are now being considered from applicants to fill the position. An appointment will soon be made, and meanwhile Mr. Blanck and Mr. Munson are looking after the routine of the office.—M.

A FEDERAL MARKETING BOARD.

THE creation of a federal marketing board to provide for the organization of cooperative marketing associations is the object of a bill introduced in the senate by Senator McCumber, of North Dakota. The board is to be composed of five members, having expert knowledge and experience as follows: One each in the cooperative handling and marketing of grain, fruit, cotton, dairy products and live stock. Each member of the board shall receive a salary of \$6,000 per annum.



Wednesday, January 25.

CONVICTS from the prison at Dannemora, New York, gave valuable aid in saving the town from destruction by fire.—The crew of the Norwegian freight steamer Mod was saved in mid-ocean as steamer sank.—American Knights of Columbus will raise a million dollar fund for the memorial shrine of the late Pope.—Detroit is the second largest paint and varnish producing community in the United States.

Thursday, January 26.

COL. J. C. MORROW, governor of the canal zone, says that within a few years the Panama Canal will be a money maker for the United States.—Passport restrictions for Americans entering Mexico, and Mexicans entering America, will be lifted February 1.—William Jennings Bryan defends farm bloc at the National Agricultural Conference.

Friday, January 27.

ELSIE HILL, one of the leaders of the National Women's Party, married Albert Levitt, a professor in the South Dakota University, but she will retain her own name.—Norine Cornucopia Pontiac, a pure-bred Holstein on the John Llasley Stock Farm at Ypsilanti breaks the world's sixty-day milk record by producing 51.24 pounds of milk.

Saturday, January 28.

THE United States seeks a treaty with Great Britain under which the United States and Canada can undertake the building of the lakes to Atlantic waterway.—The republican national committee still owes over \$708,000 for the election campaign of

President Harding.—The President opposes drastic reductions in the size of the army, stating that Europe should cut armies first.

Sunday, January 29.

A PLAN to link Detroit, Ann Arbor, Flint, Lansing and Jackson in a motorized freight and passenger system is proposed by a Detroit company.—In a questionnaire answered by the boys of Puyallup High School shows that they favor in girls, first, character, second, personality, and third, beauty.—Henry Ford accepts the Muscle Shoals offer of Secretary Weeks.

Monday, January 30.

THE Detroit Auto Show has a record-breaking attendance.—The national executives of the Camp Fire Girls plan to start a campaign to make the flapper forget jazz by getting her interested in outdoor life.—Refusal of the United States to take part in the Genoa International Economic Parley gives it a serious setback.—A flu epidemic menaces New York. Over two hundred cases were reported in one day.

Tuesday, January 31.

THE Ohio miners face a big pay slash to over forty per cent on April 1.—A big blizzard sweeps the Atlantic states.—Poland puts a ban on beer containing more than two and a half per cent alcohol.—Over one hundred were killed and many injured when the roof of a movie theatre in Washington, D. C., collapses.—Germany asks the suspension of the 1922 reparation payments. She also asks help of the allies in restoring internal and external credit.

Need for Food Abroad Is Large

GERMANY alone will require two million tons of imported food-stuffs before another harvest. Czechoslovakia, Austria, Italy and France are also looking to the surplus in America to supplement their dwindling supplies. These facts are revealed in a report of G. F. Warren and W. F. Callender, of the United States Department of Agriculture, following an extended study of agricultural and market conditions in Europe.

Drought in Europe.

The severe drought that occurred in Europe last spring came after the rye and wheat crops were out of danger. In fact, the abundant sunshine, coupled with sufficient moisture in the soil to ripen these crops resulted in excellent yields, declares Dr. Warren, but barley and oats were generally damaged and corn, potatoes, sugar beets and fodder crops suffered most of all. For example, in Germany the wheat yields per acre were twenty per cent above last year, while potato yields per acre were thirteen per cent less than last year. In Hungary the wheat yield per acre was 14.4 bushels last year and 17.5 bushels this year. But the yield of potatoes per acre was 121.2 bushels last year and 66.7 bushels this year. Corn yielded 24.9 bushels per acre last year and 13.6 bushels this year.

The drought damaged pastures and fodder crops to such an extent that in

some countries live stock was sold off as a result. Such sales tended further to depress the meat markets. The drought also delayed the planting of winter wheat until the late rains came. The area seeded was reduced and in much of Europe the sowing was done after the best date for seeding, so that the crop next year will be injured unless the winter is very favorable.

Surplus-Producing Countries of Europe.

Roumania's exportable surplus will probably be less than 300,000 tons, reports L. G. Michaels, who is making similar studies for the Department of Agriculture in that country. This would indicate that earlier suppositions that the Roumanian surplus would be an important source of supply for Europe are no longer tenable. Great difficulty is being experienced in Roumania, writes Mr. Michaels, in concentrating this small surplus because of shortage of cars, price fixing, and governmental conditions. The corn crop is much below last year's and is barely sufficient to supply local needs.

Hungarian officials stated in November that permits had been issued for the exportation of 100,000 tons of wheat flour. Later the amount was somewhat increased. It is doubtful, however, whether this amount will actually leave the country, as the Danube, the principal outlet, is frozen over and

there is a serious shortage of cars.

The Polish grain crops were much better this year than last and permits were issued in the fall for the exportation of 50,000 tons of rye and barley. Little progress has been made, however, and it is doubtful whether Poland will be a significant factor in the export situation this year. It is even possible that imports will be required before the next harvest.

All of these countries combined will play a very small part in the export situation this year.

Although the production of wheat and rye in Europe in 1921 was much above 1920, a large amount of grain must be imported before the next harvest. The consumption of the new crop began about a month earlier than usual; the fodder, root and potato crops are smaller than usual; the condition of the fall-sown crop of wheat and rye is not satisfactory so that the farmers are inclined to hold over some of this year's crop.

The total production for eighteen European countries for 1920 and 1921 was as follows:

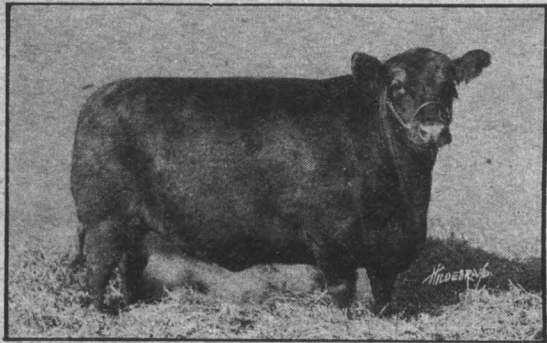
	1920.	1921.
Wheat	846,691,000	1,050,640,000
Rye	493,887,000	688,644,000
Barley	430,456,000	462,543,000
Oats	1,157,753,000	1,158,325,000
Potatoes ..	2,690,435,000	2,399,517,000
Corn	321,843,000	283,214,000

The countries in Europe that are im-

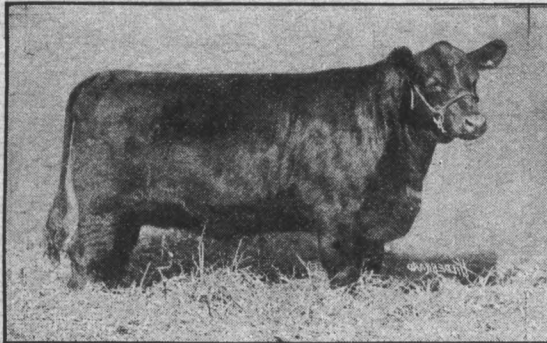
porting and must continue to import grain are: The United Kingdom, the Scandinavian countries, Czechoslovakia, Germany, Austria, Italy, Switzerland and France.

The wheat crop in the British Isles this year was large but reports state that most of it has been consumed. Probably imports will continue at nearly the usual rate. The German needs for the remainder of the year were given on November 1 as approximately 2,000,000 tons. Very little has since been imported. When the mark dropped so low in value the German government delayed its purchases of grain waiting for a hoped-for improvement in the exchange rate. One of the primary factors in the wheat situation is the ability of Germany and Austria to buy. On December 1 the needs of Czechoslovakia were stated by officials to be 250,000 tons. Austria is importing and will need to import 50,000 tons of grain a month for the balance of the year. The needs of France will be dependent on the amount held by farmers but probably an importation of half a million tons will be required. It is stated that Italy will need about 1,000,000 tons in addition to her own crop in order to furnish a normal supply to her people. The United Kingdom and Holland have been heavy importers of corn during the year and will probably continue to import.

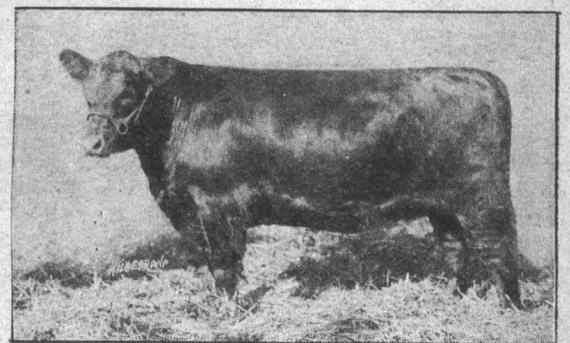
Michigan Stock Takes Prizes in Angus Classes at International Live Stock Show



Pride of Glencarnock 3d.



Queen Nina 2d.



Pridista of Wildwood.

HERE is another group of prize-winning cattle exhibited at the last International. They are from the splendid herd of Angus cattle on the Wildwood Farms owned by William E. Scripps, of Orion. Mr. Scripps' winnings at the 1921 International are as follows: Third in junior yearling bull class on Eirreboil of Bleaton; fourth in same class on Plum, Square and Level; seventh in the aged cow class on Pride of Glencarnock 3rd; ninth in senior heifer class on Queen Nina 2d; eighth in junior yearling heifer class on Pridista of Wildwood; sixth in senior heifer class on Queen Mary Ann, and second in junior steer calf on Black Printer.

Regarding these animals and their progeny Mr. Scripps has the following to say:

Although Edgar of Dalmeny was not exhibited at the International in 1921,

mention is made of him because of his remarkable record. There has never been an exhibition in this country or abroad where an offspring of this famous sire has been shown, that at least one of them did not finish well up in the money.

At the International in 1921, five animals sired by Edgar of Dalmeny were led into the prize ring, and all five were awarded prizes. These winners were: Plumb, Square and Level, Pridista of Wildwood, Queen Nina 2d, Queen Mary Ann and Black Printer (steer).

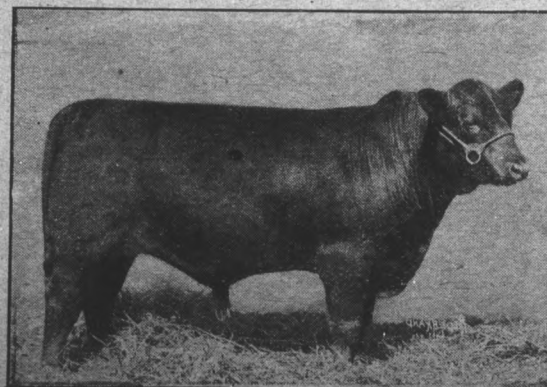
Edgar of Dalmeny was raised on the Dalmeny Home Farm by the Earl of Rosebury on the Dalmeny estate near Edinburgh, Scotland. He was imported by us in 1918. His winnings in Great Britain are nothing short of remarkable. He is the sire of Blue Bell, the supreme champion at the Smithfield,

Edinburgh and Islington shows in 1919 and the Birmingham show in 1920; Erodemus the 1919 Perth champion; Black Bill of Tillyrie, second to Erodemus at Perth the same year; Jaunerra Erica, first at the 1919 Royal Northern and imported at once of the highest prices on record; Prince of Adria, first.

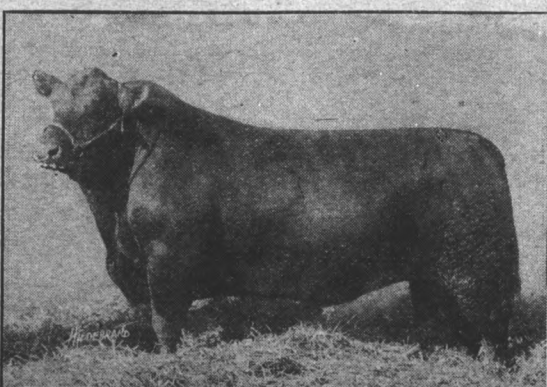
Eirreboil of Bleaton is the most recent addition to our herd. He was imported from Messrs. Marshall & Mitchell, the Bleaton Farm, Balridowrie, Perthshire, Scotland, and comes to our herd from a family of Angus aristocracy which has produced innumerable champions at Perth, Smithfield, Birmingham and other shows abroad, and also the International and other shows in this country. Although a young animal, his 1921 record foretells a famous career. He was awarded first prize for junior yearling bull, junior champion and reserve to the grand champion at

the Michigan State Fair in Detroit, and was grand champion bull at three other Michigan fairs. In his first showing at the International in 1921, he was awarded third in the junior yearling bull class.

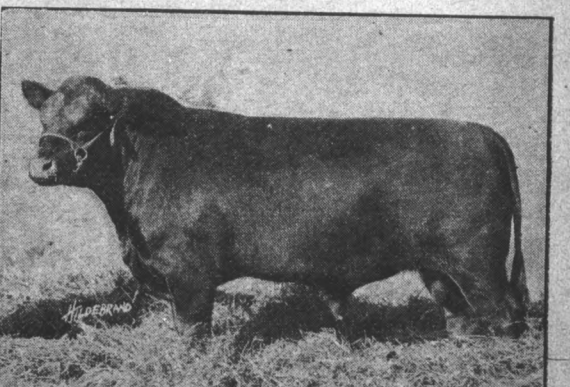
Plumb, Square and Level, a worthy son of Edgar of Dalmeny, and winner of fourth place in the junior yearling bull class at the 1921 International, has been presented to the Michigan Agricultural College by Mr. Scripps. Although the appearance of this bull at the International in 1921 was his first, he has an enviable record gained through exhibition at various state fairs throughout Michigan. He was grand champion bull at the Michigan State Fair in 1920, and second in his class in 1921, first prize having been awarded to another of Mr. Scripps' bulls.



Plumb, Square and Level.



Edgar of Dalmeny.



Eirreboil of Bleaton.

Agricultural Conference at Washington

Our Special Representative Reports the Proceedings of this Important Gathering

THE National Agricultural Conference was called by Secretary Henry C. Wallace, of the United States Department of Agriculture, at the request of President Harding. It met at Washington on January 23-27, and was attended by about three hundred representatives of the farming interests, together with representatives of such related interests as implement manufacturing, milling, meat packing and fertilizer production.

In general character the delegates ranged from conservative to radical, the plan being to give a direct opportunity for factors and factions to come in contact and express themselves with a view to getting concrete facts and suggestions that would offer a basis for a constructive program of agricultural reconstruction. It was a fine body of men and women and the program presented many points of outstanding interest. The real constructive work of the conference was done through committees, every regular delegate being assigned to a working group.

The outstanding feature of the conference was the address by President Harding. He discussed the farm crisis and offered some constructive suggestions. He declared that with an intelligent public most problems were well on the way toward a solution when they became understood. The conference had been called to bring about such a general understanding of the critical situation now confronting American agriculture. "Concerning the grim reality of the present crisis in agriculture," said the President, "There can be no differences of opinion among informed people. The depressions and discouragements are not peculiar to agriculture, and I think it fair to say there could have been no avoidance of a great slump from wartime excesses to the hardships of readjustment. We can have no helpful understanding by assuming that agriculture suffers alone, but we may fairly recognize the fundamental difficulties which accentuate the agricultural discouragements, and menace the healthful life of this basic and absolutely necessary industry."

The President declared that it was obvious that "the farmer needs to have provisions, adapted to his requirements, for extension of credit to produce his working capital." In connection with the Federal Loan Board he commented on the fact that while farm finance has been benefited the board had not extended its operations to provide working capital as distinguished from permanent investment in the operating plant. He declared that all the farmer needs is a chance. With a fair show he is as good a business man as any other; that his credit can be better established, his particular needs for capital suited to his requirements can be met on terms suited to his requirements but that it cannot be too strongly urged that the farmer must ever be ready to help himself. He declared that the laws permitting adequate co-operation for which farmers are asking should be passed and that both producer and consumer would profit thereby. He even went so far as to say that with proper financial support and with facilities for collecting and disbursing information "a group of co-operative marketing organizations would be able to advise their members as to the probable demand for staples and to propose measures for proper limitation of acreages in particular crops. The certainty that such scientific distribution of production was to be observed would strengthen the credit of agriculture and increase the security on which financial advances

could be made to it. The disastrous effects which arise from over-production are notorious." He endorsed the Great Lakes-St. Lawrence waterway project by reason of the fact that through it a great population would be brought in immediate touch with the markets of the world. This address made a profound impression and was warmly received.

In explaining the call for the con-

ference Secretary Henry C. Wallace, of the United States Department of Agriculture, said that the crisis in agriculture was affecting our entire business and industrial life, and that in bringing together this most representative body of men in agricultural history it was hoped to have some sign boards set up to assist toward permanent improvement. The only consideration in calling the delegates was

their known ability to help just as during the war no questions were asked as to politics, religion or race. All delegates came at their own expense and the response had been beyond expectations. The three lines of possible procedure were said to be through legislative action, through administrative and educational effort by state and nation and through individual farmers and their organizations.

In discussing the present situation and agricultural prices Hon. Sydney Anderson, permanent chairman of the conference, and chairman also of the Congressional Joint Committee of Agricultural Inquiry, presented some valuable statistical results of the work of the committee and ended up by declaring that while there was no government panacea he was persuaded that results could be attained through more efficient organizations of producers for standardization of products for market and delegating their sale to some agency which the producers control. Also that the government must remove all obstacles which retard, if they do not prevent, combinations of farmers for the purpose of sorting, grading, packing and processing their products; that the states must give legal status to organizations of this kind and establish their legal powers and obligations as well as the legal powers and liabilities of the members.

A number of speakers presented the situation in their respective sections of the United States. E. B. Cornwall, speaking for the northeastern states, declared against arbitrary price fixing. James W. Morton, of Georgia, speaking for the cotton belt, declared that the only recipe for recovery was work and careful management. He declared against paternalism but that a readjustment of transportation charges was necessary. For the corn belt A. Sykes, of Iowa, told of the plight in which the corn growers found themselves and called for valuation of commodities in terms of farm products as well as severe limitation of pure speculation in food products. For the wheat regions of the northwest John H. Hagen, of North Dakota, declared that better long time credit facilities were necessary, that freight rates must be reduced and that he considered a fixed minimum price as essential. This latter statement did not meet with cordial agreement, however, on the part of the delegates. For the range country Fred Bixby, of California, declared that the cattle loan companies were gripping the industry and that it was in a bad way. Better financial facilities were necessary and lower freight rates demanded.

Speaking for the implement industry W. H. Stackhouse, of Springfield, Ohio, stated that the manufacturers had taken off liberal percentages of their advances made during the war time period of high costs and that in most cases it was impossible to extend credit facilities beyond a limited date. He urged an extension of the functions of the War Finance Corporation, that shippers use every possible means to assist railroads in reducing their operating costs, that the Adamson law be repealed and freight rates reduced. Mr. James F. Bell, of Minneapolis, explained that it made little difference to the milling industry about the price of grain as the margin of manufacture was passed along to buyers of flour and feed. Millers had lost like others, due to over-competition; that all the miller asked was a constant supply of grain so as to assure continuity of operation and a fair chance to make his

(Continued on page 139).



Consider Drainage Topics

Michigan Drain Commissioners Hold Annual Meeting

AT the annual meeting of the Michigan Association of Drain Commissioners, held at Saginaw, January 24-26, Ezra Levin of the state agricultural department, told the delegates that his department was ably assisting in improving the drainage of the state, and that the United States census showed Michigan to be the leading state in executing drainage projects.

"The only way to decrease taxes in the state," said Mr. Levin, "is to increase our resources, and one of the best ways to do this is to drain land, thereby increasing its value. State officials realize this fact and have promised to create a drain department equal in importance to the state highway department."

Discussing the plan, recently authorized by the legislature, of bonding to raise money for drain building, instead of putting the entire cost into the tax roll, R. H. Briggs, of Marshall, described how Calhoun county, the first to put the new plan into effect, had made drain improvements that otherwise would have been impossible.

"Under our old system, he said, "there was absolutely no provision to take care of the farmer who moves on a piece of wet land, with only enough money to make a payment on the land and buy the necessary farm equipment. The man who has money enough to pay a heavy drain tax, with no opportunity to get it from the land first, can generally get along without the drain far better than the man who has not the money to pay the tax. The very fact that a farmer needs the drain the most makes him all the more unable to pay the bill after he gets the water out of his soil."

"I know of several cases where farms were sold because the owners were unable to pay a drain tax of less than \$15 per acre, and these farms were resold within from two to four years for an increased price of \$25 to \$50 per acre. Now, should we not use our best efforts to provide some sort of practical aid for farmers who need drainage the most and are the least prepared to pay for it?"

Bert R. Walker, of Marlette, gave an interesting discussion on "Bridge Construction Suitable for County Drains."

How food production of Michigan farm lands can be increased from fifty to one hundred per cent by proper drainage, was explained by Arthur G. Bovay, agricultural agent of the Saginaw County Farm Bureau, at the Wednesday afternoon session at the Bancroft Hotel.

"A prominent official of the United States government stated recently that the indebtedness of foreign governments to the United States would not

be paid in food," said Mr. Bovay. "Did he mean that America would be importing food? Our several million acres of so-called improved land now under cultivation needs the water table lowered at least two feet in order to produce crops profitably."

"On good authority, as the results of experiments, it has been conceded that the present tillable area of this state could produce fifty to one hundred per cent more food by supplying adequate drainage. With your cooperation, support and influence, the state of Michigan may get the most efficient and practical drainage laws, and in this way do much toward preventing the above prophecy from becoming a reality."

Discussing the means whereby improvement of Michigan's drainage can be brought about, Mr. Bovay discussed many of the scientific principles underlying proper drainage, and pointed out many of the requirements necessary to be met.

In a highly interesting paper, David A. Nicol, Saginaw county surveyor, described the drainage and flood conditions of the Saginaw Valley, showing how the Saginaw river drains thirteen counties, and how the lack of fall in the Saginaw river prevents proper disposal of the waters from its tributaries, resulting in annual floods.

Asking the public utilities commission to lower freight rates on drain tile, praising the work of the state agricultural department, advocating that the state drain commissioner, when that office created work under the agricultural department, and electing officers for the coming year, the association brought its annual meeting to a close with a banquet Thursday night, tendered by the state dredge contractors.

"As essential to the general welfare of the people of the state to improve farm drainage as to improve the country roads," the convention asked the public utilities commission to "give drain tile the same rate consideration they have road materials."

Richard A. Smith, state geologist, gave an excellent paper in which he discussed drainage conditions, particularly the proposed establishment of a state drainage department, which he strongly advocated.

At the banquet William M. Smith, a member of the public utilities commission, was toastmaster. Rev. Emil Montanus, of Saginaw, gave an address and Mueller Brothers sang several songs.

George Graham, of Mason, was elected president of the association; Orley Roades, of Grant, was named vice-president, and E. L. Hunter, of Charlotte, was re-elected secretary and treasurer. The convention voted to meet at Monroe next year.—J. C. M.

A Fight for Life and Cash

THE folly of keeping considerable sums of money in the house is again shown in the case of Mr. Clayton Phelps, a well-to-do farmer who has long considered his money safe in his own keeping.

Doubtless some watchful and dishonest individual discovered that he paid his bills by cash instead of by check through a regular banking institution; and as Mr. Phelps' home is situated on one side by itself, as he is somewhat deaf and lives alone with his sister, it all looked like an easy place to rob.

But the two robbers had reckoned without their host for they did not know what a game fighter the farmer would prove to be, nor how his sister would outwit them by slipping out of the front door and summoning help.

Nevertheless, Mr. Phelps had to do battle with his assailants for nearly an hour. He defended himself with an axe. He was shot in the forehead and fortunately the bullet was about a quarter of an inch too high to prove fatal. The men escaped and have not been apprehended at this writing.

As soon as his condition permitted Mr. Phelps sorted over his cash which

amounted, it is said, to several thousand dollars, even the silver which he had in the house, and his bonds, and placed them in a bank for safe-keeping.

Sooner or later those who keep valuables in the house are sure to come to grief. Theft or fire are liable to menace at any time. Mr. Phelps had a house safe, but in the hands of a skilled burglar this is not much protection.

The attempted robbery at the Phelps' homestead took place at about 8:30 in the evening, as the robbers did not even seem to think it necessary to wait until the family had retired.

To have one's possessions cared for in the safest possible way is surely good judgment and the small expense entailed is more than offset by the peace of mind gained. Physical danger for the owner of valuable property and other members of the family as well, attend keeping such possessions in the house.

Banks with their vaults as impregnable as they can be made, with their burglar alarms, with their night watchman, with police surveillance, and fire-proof construction—are the proper storehouses for valuable belongings.—E. G. W.

Inferior Tile Is Costly

By W. Van Haitsma

NO amount of care in the planning and construction of a tile-drainage system will compensate for the risk involved in using tile of poor quality. Many a system of drainage has ceased to function because the tile failed to stand up. This has resulted in the loss of the entire original investment in the purchase, hauling, distributing, laying and covering of the tile, not to mention the loss in crops due to the resultant lack of drainage. A single broken tile in a drain may allow so much soil to enter it that it becomes completely clogged for a considerable distance.

Since the value of the labor required to construct a drain or to restore its efficiency once it has become clogged generally exceeds the cost of the tile, it follows that poor tile are expensive at any cost. The price of tile is, however, no criterion of their quality because the manufacturer of poor tile usually asks as much for his product as does the manufacturer of good tile. The farmer should have the same protection when purchasing tile that he has when purchasing fertilizers. The sale of tile that fall below a safe standard of strength and durability should be prohibited by law.

Since the farmer must depend very largely upon his own judgment when buying tile, a brief discussion of the points to be considered may be of value.

Tile should be uniform in shape, that is, round and straight. Tile that have become warped through overburning or careless handling are hard to fit, and reduce the capacity of the drain. Their ends should be smooth and their interior free from irregularities which impede the flow of water.

The strength of tile depends upon their weight, the degree of burning and method of curing, and the quality of the material used in their manufacture. A four-inch tile should weigh from six to seven pounds; a five-inch eight to ten pounds; and a six-inch from eleven to twelve pounds.

Since all but a negligible amount of the water entering a tile drain enters through the joints, tile should be made so hard that they are practically non-porous. This will protect them against damage by frost. Tile that crack and

peel when exposed to the weather should never be laid above the frost-line, nor is their use considered advisable even under the most favorable conditions. All tile should be so hard that they emit a clear, metallic ring when tapped with a hammer.

The color of clay tile depends upon the degree of burning to which they have been subjected and the kind of clay from which they have been made. There is no objection to the use of white tile, provided they have been properly burned. Lime spots in the walls of tile are considered sufficient cause for rejection because their presence reduces the strength of the tile.

There are no stronger tile than those made from shale. When in doubt about the quality of any other available kind, buy vitrified or salt-glazed tile. They are more frost-resistant than clay tile and are therefore recommended for use at outlets and in such portions of the drains as lie above the frost-line. They are not, however, recommended for general use unless their cost comes within a few dollars of the cost of a good grade of clay tile which, experience has shown, will last indefinitely.

"Safety First" should be the farmer's slogan when selecting drain tile. If he dare not depend upon his own judgment he should engage an experienced man to select his tile for him. Tile should not be selected from samples. Samples have a habit of setting a standard of quality to which the lots from which they are selected cannot aspire. Insist on seeing the tile as they are piled up at the factory, or, which is better still, inspect a shipment that has already been made to some farmer. Don't allow the lure of low prices of seconds and culls to induce you to buy them. Bear in mind that the efficiency of a drainage system cannot be insured permanently unless none but tile of known strength and durability are used.

The State Farm Bureau wool pool is said to have progressed rapidly in the past two years in reducing an untried phase of cooperative marketing to efficient methods of procedure. Experience has improved early pooling methods and there is a constant effort to better the service and reduce the cost of operation, says the farm bureau.

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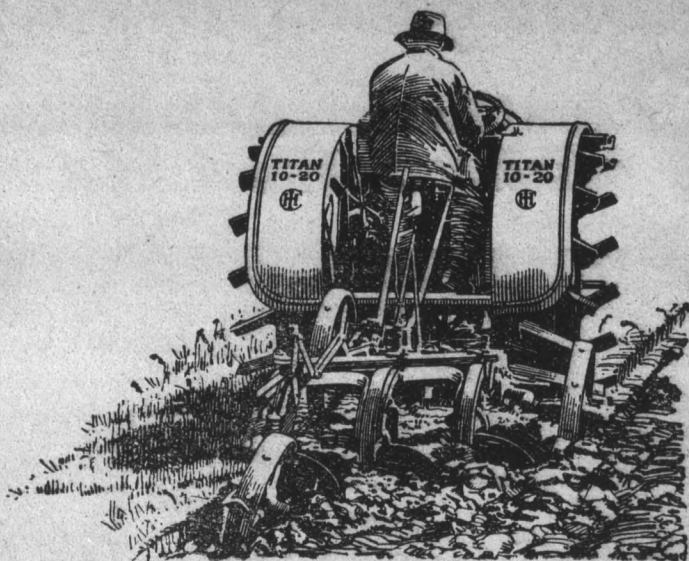
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Our big Catalog shows 100 styles and heights and is yours for the asking. You can't afford to buy fence until you see this bargain book. Write for it today.

KITSELMAN BROS., Dept 278 MUNCIE, IND.

Our Service Department

Always Give Name and Address When Sending Inquiries

TREES ON ROADSIDE.

Is there any law or rule against cutting trees along the road on one's own farm, that is, outside fence or road line? I have about forty rods that is very thickly grown of all sizes of trees, some as close as three feet apart. Would like to clean it up if I have the right to do so.—E. R.

These trees belong to the owner of the land adjoining that side of the road and he may do anything he pleases with them.—J. R. R.

GRASS FOR BLOWSAND.

Would you please tell me what kind of a permanent grass I could plant on some blowsand spots? I would like to keep it from blowing. Would quack grass do, or is it not a good plan to sow it?—H. W.

Sheep's fescue is sometimes used to hold light sandy spots. Marram grass is also used along the lake front. A mixture composed of sheep's fescue, rye grass, brome grass and orchard grass would likely be of more value than the seeding of a single grass. If the spots are not large would suggest a top-dressing of strawy manure to hold the sand and add fertility for the growth of the grass.—C. R. M.

BEEF FACTORY LIME.

In the January 7 issue of your paper I read an article urging farmers to use sugar beet lime. I know of a pile of this lime cake which has been left for ten years. Will you please tell me if this would be worth hauling?—F. S.

Lime cake, as collected in the ordinary beet factory lime refuse pile will keep almost indefinitely without damage or loss in value. If for any reason a great deal of impurity or foreign matter washes into it an analysis for lime carbonate is the best means to ascertain its agricultural value.—J.

PRIVATE LAKES.

What are the laws of Michigan regarding fishing a lake containing from fifteen to thirty-five acres? It has an outlet but no inlet. This lake is surrounded by a man's land and the only possible way to get to it without getting on this land is to walk up the outlet, which is not wide enough to take a boat. Would I have a right to fish on this lake if I walked up the outlet?—M. W.

This is a private lake and nobody has any right on it without the consent of the owner. The method of approach proposed may be navigation in the slang sense, but this outlet is not a navigable stream.—J. R. R.

FOOD VALUE OF COOKED BEANS.

Please tell me how much value cooked beans are as a food for milking cows.—D. D.

Ordinary white beans are classed among the higher protein feeds and are often, as cull beans, a very cheap source of that food so essential to milk production. On the dry basis they contain about nineteen per cent digestible protein. Compared with choice cotyled meal with thirty-seven per cent touseed meal with thirty-seven per cent, oil meal thirty per cent, and bran at 15.5 per cent, they rank well. Besides protein they contain considerable of the fat and energy producing substances, ranking about the same as oats or flour middlings, but somewhat lower than corn in this respect.

The chief objection to beans for the dairy cows is the fact that they are unpalatable and cows dislike them. This can be overcome to some extent by mixing them with corn meal, ground oats, or bran. In this way two or three pounds of ground beans per cow can

be fed daily. If larger amounts should be consumed, they may prove somewhat too laxative.

Cooking probably does not increase their digestibility greatly if at all, but does improve their palatability, thus causing the cows to relish them better and consumer larger quantities. Whether or not they are cooked will depend on the cost of cooking and whether they are cull beans containing stones, thus preventing their being ground.—J. W. W.

RIGHTS OF SECOND MORTGAGE.

A. has first mortgage due in three years. B. has second mortgage due in four years. When B. sold the farm to C. he did not take a chattel mortgage on stock and machinery. Now C. wants to sell the stock and machinery. Can B. get his money when it is due? If B. wants to lose his mortgage, will he be responsible for the interest and taxes? Will he be clear of all responsibility?—G. H. S.

The taking of a second mortgage creates no obligation to pay the first, nor interest on it. But on the other hand, one liable for a debt does not escape it by giving a mortgage to secure it and selling subject to the mortgage to one who agrees to pay it.

Though a debt is secured by mortgage the creditor may sue on the debt and take execution against any property not exempt.—J. R. R.

A BALANCED RATION FOR JERSEYS.

Will you be so kind as to give us a balanced ration for Jersey milch cows? We are feeding: No. 1 alfalfa, shredded cornstalks, corn silage and ground oats. We would buy what is needed to provide a balanced ration.—F. R. G.

The following grain mixture should give good results with the roughages you mention fed, when fed to your Jersey cow at the rate of one pound of grain for each three pounds of milk produced daily: Corn meal, three parts; oil meal, one part; and cottonseed meal, one part. If alfalfa hay is being fed very liberally, at least twice daily, the oil meal may be removed from the mixture and the amount fed reduced to one pound to each four pounds of milk produced daily.

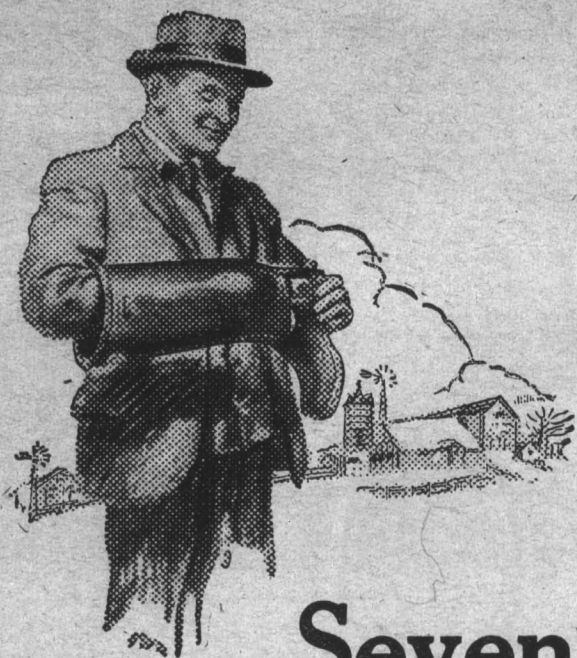
More satisfactory rations can be suggested, if the approximate weight of the cow, amount and approximate test of the milk, as well as the kinds and amounts of feeds fed are given when making requests.—W.

CEMENT TILE FOR DRAINAGE.

I would like to know about cement tile. They tell me that cement tile will not last under ground. How much cement should I use to make tile and how many tile can one make out of a barrel of cement?—O. N.

Cement tile have been used to a considerable extent in various sections of the state as well as in other states. Cement tile, however, cannot be universally recommended for drainage work. Investigations by the experiment station have indicated that many cement tile have been laid in muck ground where they have entirely disintegrated within a period of five years. Cases of failures have also been found in sand, while in clay there seems to be little or no deterioration as far as observations have shown.

We have not, as yet, seen our way clear to recommend the manufacture of cement tile by the farmer. There are many ways in which failure can occur and the farmer cannot afford to put into the ground a product which involves so much labor and expense about which there is any doubt.—H. M.



The "U. S." Boot

Seventy-five years—

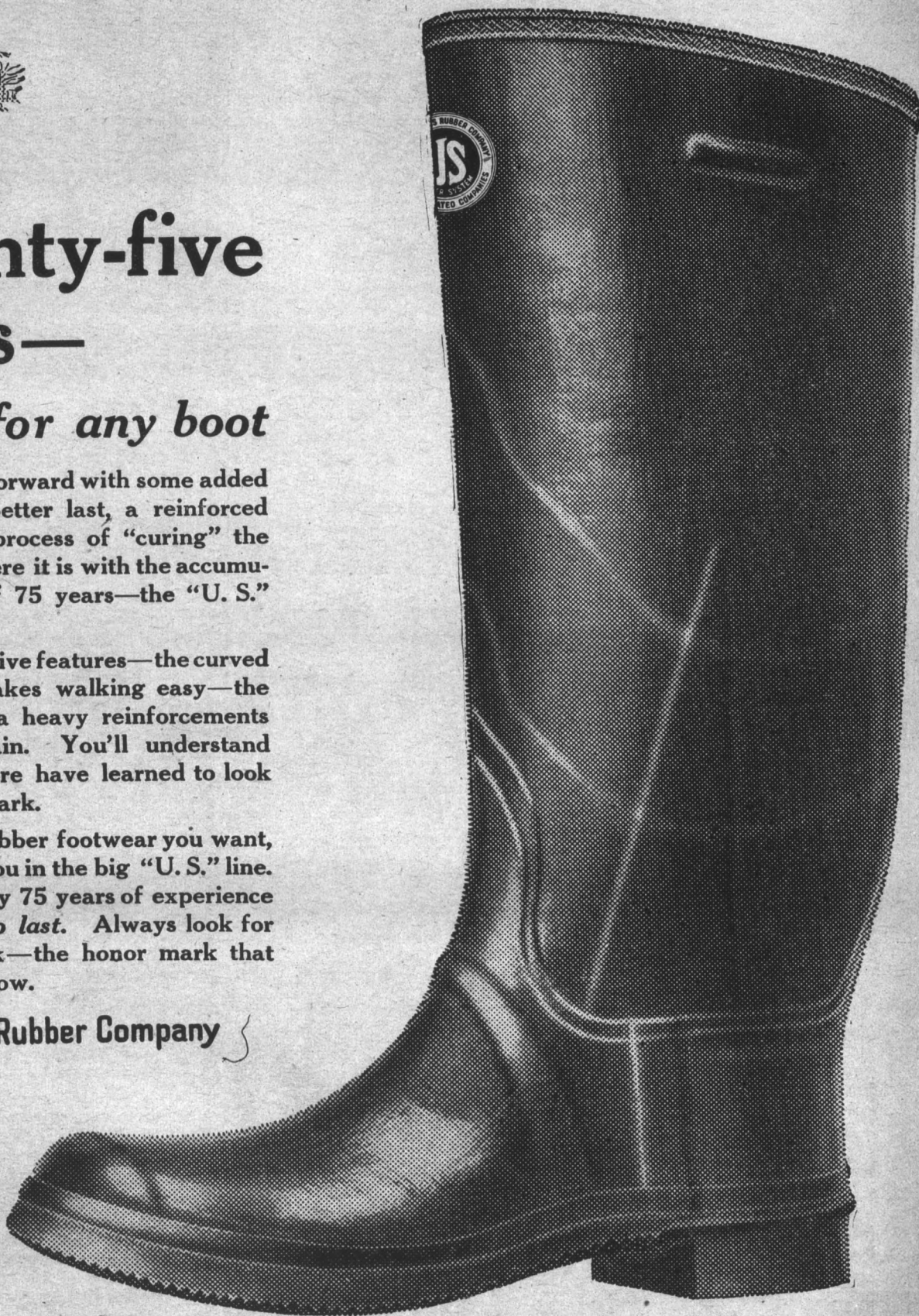
a stiff test for any boot

EVERY year a step forward with some added improvement—a better last, a reinforced heel, or an improved process of "curing" the rubber—until today here it is with the accumulated improvements of 75 years—the "U. S." Boot. Look it over!

Note the many exclusive features—the curved "Rocker" last that makes walking easy—the flanged sole—the extra heavy reinforcements at every point of strain. You'll understand why farmers everywhere have learned to look for the "U. S." trademark.

Whatever kind of rubber footwear you want, there's a type to suit you in the big "U. S." line. Every one is backed by 75 years of experience—every one is *built to last*. Always look for that "U. S." trademark—the honor mark that millions of farmers know.

United States Rubber Company }

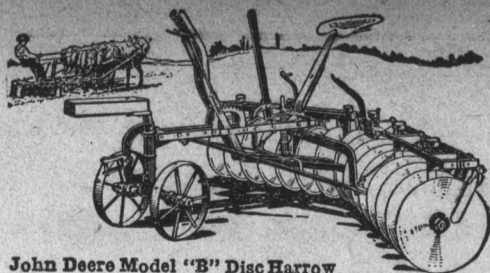


Look for this trademark on



all "U. S." Rubber Footwear

Flexible— Penetrates and Pulverizes Better



John Deere Model "B" Disc Harrow

Up over ridges, down into dead furrows and depressions, on hillsides or on level land—a complete job of disking at even depth the entire width of the harrow can be done under all these varying field conditions by using a John Deere Model "B" Disc Harrow because it is flexible. The gangs are independent of each other. By means of a third lever, pivoted yoke and unusually powerful spring, the inner ends of the gangs can be given light pressure for soft ground, or ridges, heavy pressure for hard ground or for going down into dead furrows and depressions. Each gang can be

angled properly to prevent harrow from crowding to one side when working on hillsides and when overlapping hard and soft ground.

A Way to Save Money. Buy a Model "B". Use it with your horses. Later on, if you buy a tractor, you can convert the Model "B" into the popular John Deere Pony Tractor Disc Harrow by buying only a rear section and the proper hitch. Then you will have a harrow that you can use with either tractor or horses—an advantage that often saves much time and money.

John Deere Model "L" Tractor Disc Harrow with Yielding Lock

Two convenient cranks—one for each section. With these cranks, you can set the gangs from a straight line to extreme working angle and straighten them again without stopping or backing.

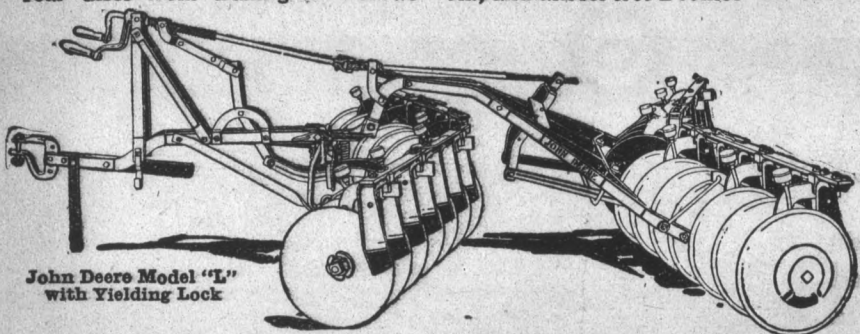
Patented automatic yielding lock coupling locks rear section when traveling straight ahead, preventing rear discs from trailing in furrows

made by front discs. When turning, this lock yields—there is no dragging of harrow around corners.

A Flexible Harrow—conforms to uneven ground surfaces.

Aligning Device; adjustable hitch; adjustable scrapers; convenient grease cups and slotted gang couplings.

Write us today for further information. Address John Deere, Moline, Ill., and ask for free Booklet TD-722.



John Deere Model "L" with Yielding Lock

JOHN DEERE

THE TRADE MARK OF QUALITY MADE FAMOUS BY GOOD IMPLEMENTS

Farms and Farm Lands The Best Way To Buy A Farm

Farms in the South as productive as Western farms can be bought at low prices and bring bigger net profits owing to mild climate and good markets. Unusual opportunities for dairy farming. Study these conditions before buying. Good farms can be rented for a year with option to buy at a fixed price. Full information free. Write J. C. WILLIAMS, Manager, Southern Railway Development Service, Washington, D. C.

124-Acre Farm Near City 3 Horses, Poultry, 9 Cows

Six young stock, hogs, manure spreader, incubator, machinery, vehicles, tools included; one Michigan's finest sections, near RR town, easy drive city; 70 acres productive loamy dilage; 20 cow spring-watered pasture; estimated 1000 cords stovewood; 72 apple trees, lots other fruit, berries; attractive 8-room house, cellar, piazza; substantial barn, stable, granary, poultry house. Owner retiring, \$8500 takes all, only small payment needed, easy terms. Catalog free. F.W. HAMLIN, Chelsea, Mich.

Wonderful Stock Proposition

320 acre farm, nearly level, clay loam soil, 240 acres cleared with \$10,000 worth of buildings, on a state award gravel road, 1 1/2 mile to good town, with good High School. Price \$50 per acre, woven wire fences. With this the purchaser can buy, if he desires, from 1000 to 3000 acres of fine pasture land, clay loam soil, well watered, good drainage and mostly fenced, at \$20 per acre. Any reasonable payment down will take this proposition. Write W. F. UMPHREY, Evart, Mich.

For Sale Michigan Farm

100 acres, 90 acres under cultivation, 10 acres in pasture and 20 acres wheat on ground. Soil is clay loam. All fenced with woven wire fences, is 3 miles from Millington. Good bearing orchard of 60 trees, 12 room house, all hardwood finish, well in house, electric; basement under whole house, barn, 40x70 ft., granary, tool house, drove well at barn with wind mill. Will sell stock and tools. Have all a person needs to begin work. Price is \$125 per acre, half down and balance on time to suit buyer. For further information write or see.

B. F. HAZZARD, Millington, Mich.

160-Acre Michigan Farm With Horses, Poultry, 10 Cattle

Vehicles, tools, implements, cream separator, hay, grain, etc. included; on improved road in prosperous section, motor bus passes; rich loam tillage, pasture, woodland; timber, about 1000 cords wood; fruit; good 6-room house, substantial barn, poultry house. Owner unable operate sacrifices all \$4950, only \$2000 needed, easy terms. Price \$4,000, \$2700 cash, balance easy terms. Details page 69 illus. Catalog 1100 Bargains. FREE. STROUT FARM AGENCY, 814 BC Ford Bldg., Detroit, Mich.

FOR SALE 182 acres of land, 60 acres cleared, fair buildings, good well, windmill, orchard of 50 trees, near church and school, on trunk line road 4 miles from county seat, Missaukee Co. Inquire of County Clerk, Lake City, Mich.

Farm for sale cheap, 120 A. new land, A-1. 60 A. cleared, trout stream, fair buildings, house, log barn, garage, hen coop and sheep barn, very healthy country. Price \$4,000, \$2700 cash, balance easy terms. Address 9709 Yosemite, Detroit, Mich.

BALDWIN OF BRIDGMAN

Baldwin is the man who produces and stands behind those famous Michigan grown, new ground strawberry plants. Anyone who knows will tell you that Michigan is one of the greatest fruit growing states. Plants produced in Michigan will do well in every state of the Union. Climatic and soil conditions are ideal. Berry plants grown in Michigan produce most satisfactory results. Better still when grown on new ground. Baldwin grows them that way. For your health's sake, for profit and for pleasure, nothing gives greater satisfaction—nothing better than berries and small fruits to preserve health and maintain happiness. Our plants are true to name. All free from disease. We produce strong, healthy, large, heavily rooted plants. Millions of them, as good as ever were grown, offered our customers this year. We have had a wonderfully successful growing season.

Baldwin's Berry Plants Pay

They are produced by Baldwin himself. Are sure growers. A large, handsomely illustrated Berry Book, thoroughly descriptive of small fruit plants, one of the best Fruit Growers' Guides for the farmer, is yours for the asking. If you are not on our list, write for it quickly. It explains how to have the earliest berries in the Spring and the latest berries in the Fall.

For home garden or market purposes, for pleasure or for profit, Baldwin will show you the way. Save a day.

WRITE TONIGHT
O. A. D. BALDWIN
R. R. 16
Bridgman,
Michigan



Farm Contract For Sale

This contract pays 7% interest and two hundred dollars principle payment the year. This will take at least \$1700 to handle. First class security. Farm in Genesee County, T. T. BOYLE, 112 W. Kearney St., Flint, Mich.

MICHIGAN DAIRY FARM

240 acres level dark loam near Gladwin, Mich. Spring watered pastures, flowing well, two dwellings, plenty of other buildings, \$12,000 with \$3,000 cash down, balance long time 6%. No trades. Full description on application. U. G. Reynolds, owner, Gladwin, Mich.

News From Cloverland

By L. A. Chase

TO PLACE HIGHWAY MARKERS.

THE State Highway Department has approved the request of the Upper Peninsula Development Bureau to mark all main trunk line roads in the peninsula with the sign of the cloverleaf, and such markings will be installed as fast as may be, it is announced. The secretary of the bureau, Mr. G. E. Bishop, is also urging the placing of historical markers throughout the peninsula as has been done in Marquette county by the Marquette County Historical Society with the financial assistance of the county board of supervisors. Such markers add greatly to the interest of all who use highways.

TO ESTABLISH FISH HATCHERY.

INTEREST is being shown in the upper peninsula to the project to establish another state fish hatchery in this territory. Marquette county believes it has several eligible sites, while the Calumet Chamber of Commerce has designated a site near trunk line fifteen on the way to Copper Harbor as suitable for the proposed hatchery. Meanwhile it is announced that the state department of conservation is short of funds for any such purpose.

LUMBERING IN KEWEENAW.

LUMBERING operations in the old cut-over district of Keweenaw county have been resumed this winter, reports the Copper Journal, of Hancock. Many years ago this territory was pretty thoroughly cleaned of its saw-timber for mining and other purposes, but there is said to be considerable pine in the vicinity of Lac La Belle close to Lake Superior which will be disposed of.

UPPER PENINSULA ROAD WORK.

THE plans of the state highway department for road construction in the upper peninsula during 1922, call for fifteen miles of new hard surfaced highway in Marquette county, it is announced, while Chippewa county will see 9.5 miles constructed; Alger county, nine miles, Delta county, 7.5 miles. The share of Gogebic and Schoolcraft counties is three miles each, while Dickinson's is two miles.

TO MAKE REAL ESTATE BUYING SAFER.

IN his remarks at a recent meeting, Mr. J. A. Doelle, of the State Department of Agriculture, spoke of the projected soil survey, or classification, which the department has now in hand and he also spoke of the need of an accredited list of real estate agents, which, when it has received the O. K. of the State Department of Agriculture will deserve and command confidence of land purchasers; and he said that the Department of the Michigan Real Estate Association is working on a plan for such an accredited list of real estate dealers.

OIL POSSIBILITIES IN THE UPPER PENINSULA.

STUDIES in the field by the state geologist have shown the scientific foundation for believing that oil may be discovered in the upper peninsula at Seul-Choix (pronounced locally "Seesh-wa") Point on the Lake Michigan shore of Schoolcraft county, and during the summer active drilling was undertaken about a quarter of a mile from the lake shore. When J. E. Doelle and the writer visited the spot late in

September, we found regular drilling apparatus in position and considerable work already accomplished. More recently still a scientific study of the field has been made by E. E. White, described as an oil geological expert from the Texas field, under the auspices of the Cleveland-Cliffs Iron Company, one of the oldest, largest and most conservative mining companies in the peninsula. Mr. White's report, as recently made public, is very optimistic, but recognizes that it will perhaps take several drill-holes to definitely determine the oil possibilities of the region. Some six thousand acres of land have been taken under lease by the trustees for the contributors, the trustees residing, it is stated, in Saginaw. If oil is discovered it will not make a lot of farmers rich overnight, for the field lies in an undeveloped area, covered with a scrubby forest growth for the most part. However, a few miles away is some of the best farming country in the peninsula, and if oil is discovered, it is clear that these farmers will not be unaffected thereby. It has often been pointed out that, with our remarkable line of mineral and other resources, enjoyed by the peninsula, only coal or oil is lacking to complete the elements in a great industrial advance. The present field lies close to an old fishing harbor on Lake Michigan, which will afford ready means for lake shipment.

TAKES UP HOMESTEAD LAND.

A SECTION of homestead land has been taken up by a farmer in the valley of the Escanaba river in the central portion of the upper peninsula. This land was taken up under the special grazing act of the United States which permits entry upon 640 acres for grazing purposes only, in distinction from the old homestead act which allows 160 acres to be entered for agricultural purposes. The grazing act is applicable chiefly to the western cattle and sheep range, and it is believed that this is the first entry of the kind made in Michigan. It suggests the possibility of utilizing still other tracts of government land in this territory not desirable for agriculture. Since such land is presumed to be unfit for agriculture, difficulty may be encountered in providing winter feed.

CLOVERLAND CORN CROPS.

WHILE the Lake Superior country not set itself up as a corn producer, I have recently been shown samples of corn grown near Marquette in sight of this lake which would do credit to the corn belt. Robert Blemhuber, former upper peninsula member of the board of directors of the Michigan State Farm Bureau, was again successful, this year, in maturing several varieties of corn with excellent yields per acre. It may be remembered that photographs of Mr. Blemhuber's corn field were published in The Michigan Farmer a year ago. Of this year's plantings, the variety known as "Rain-bow" matured in ninety days from planting, while the Wisconsin number seven and number twelve matured in 110 and 120 days, producing a large, well-filled ear in each case. Mr. Blemhuber found that his corn grown from native seed matured a week earlier than that from imported seed. It has often been suggested that there should be facilities greater than at present for producing and distributing home-grown seeds and nursery stocks of all kinds adapted to the peculiar climatic and soil conditions of the upper peninsula.

SEVEN HUNDRED BUSHELS OF POTATOES ON THREE ACRES.

MR. S. S. BAILEY, who lives a short distance from Gaylord, believes in growing good potatoes and in growing them right. He grows the Round Russets which he has raised for years, constantly trying to improve them.

Mr. Bailey writes from his northeastern Michigan home as follows: "These potatoes have yielded two hundred and twenty bushels per acre for me three years in succession. Planted three feet each way with just ordinary cultivation and spraying. But the time has gone by when the northern Michigan farmer can plant a field of potatoes and then forget them and go back in the fall and dig a good crop. Now he must be on the job.

"Last spring I decided to take up the production of certified seed so plowed three acres of June clover sod upon which I had spread ten loads of manure per acre. I harrowed and planted in hills three feet apart each way. Thirty-six bushels of No. 1 potatoes were used. These were first treated with corrosive sublimate, then when dry cut with two or three eyes to the piece, and planted one piece to the hill.

"The field was cultivated four times and sprayed heavily four times. From the three acres I harvested seven hundred bushels of well-formed potatoes, of which only fourteen bushels by weight were graded as No. 2's.

"I estimate the cost of producing these three acres of certified potatoes as follows:

Hauling manure	\$ 15.00
Plowing	6.00
Fitting ground	8.00
Seed potatoes, 36 bushels.....	10.00
Treating seed	5.00
Cutting seed	5.00
Planting seed	6.00
Cultivating	15.00
Spray solution	15.00
Labor spraying	12.00
Harvesting labor and board....	50.00
Bin inspection two cents bushel	14.00

Total cost\$161.00
Cost per bushel..... .23

"No estimate of rent for the land is included which, of course, should be considered."—T. M.

MONROE FARMERS PIONEERS IN NEW TYPE OF COUNTY ORGANIZATION.

MEMBERS of the Monroe County Farm Bureau inaugurated something new in county farm bureau government at their annual meeting and election of officers late in December when they succeeded in tying together their local cooperative or business associations.

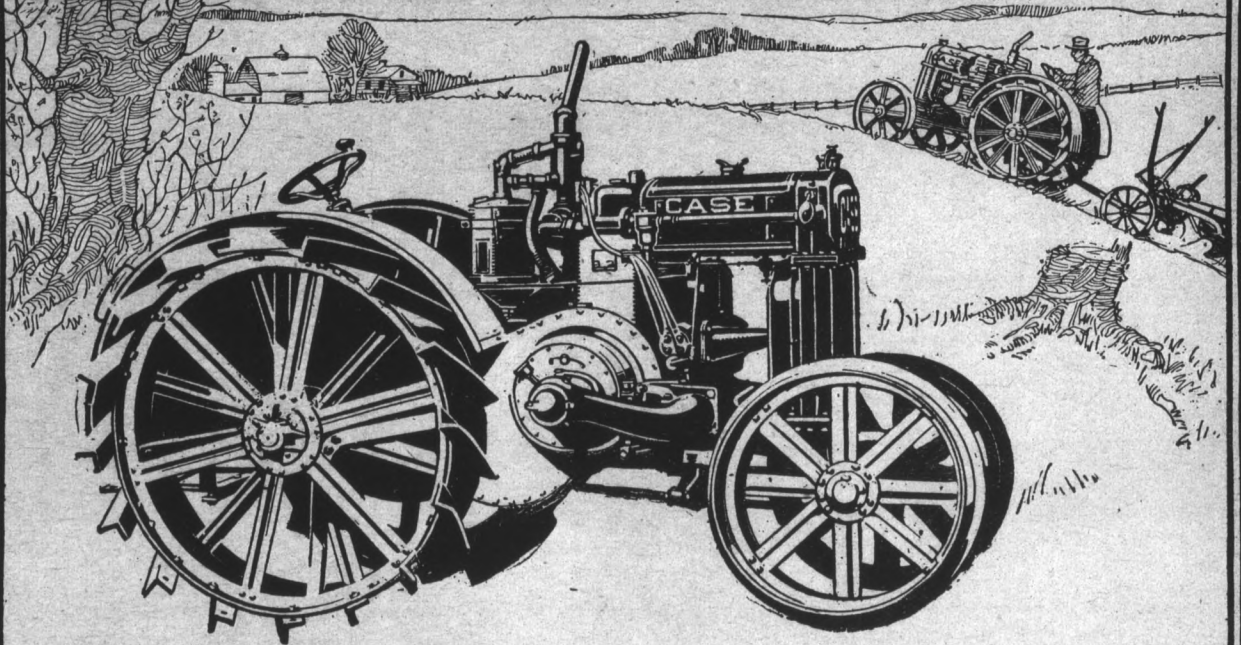
The Monroe County Farm Bureau elected as its county executive committee one representative from each of the eleven farm bureau business locals in the county. Each local had previously selected its own man and the naming was a nomination and an election. The businessman executive committee then elected officers which it made directly responsible to the committee. Heretofore, both the executive committee and the officers have been elected at large and the system was said to be defective in that it failed to bind closely the interests of the County Farm Bureaus and the local associations.

Officers elected by the Monroe County Farm Bureau were: President, Earl Jeff, of Ottawa; vice-president, Earl Stowell, of Dundee; secretary-treasurer, E. F. Knapp, of Monroe.

EXPORT OF FARM PRODUCTS.

AMERICAN commodities to the value of \$5,000,000,000 were sold in foreign countries last year, according to official reports of the Department of Commerce. Exports of farm products totaled more than \$2,000,000,000.

DURABILITY



A CASE TRACTOR QUALITY

Case Kerosene Tractors have demonstrated remarkable efficiency and economy in every test in which they have been entered. The following are a few of many exceptional records, made in the world's most important tractor tests:

Lincoln Tractor Trials, Lincoln, England—10-18 Case Tractor won Gold Medal and 20 pounds in Class I.
Zaragoza, Spain—15-27 Case Tractor and Grand Detour Plow won First Prize in Economy.
Benha, Egypt—15-27 Case Tractor and Grand Detour Plow won All First Honors.
France—In six different tests held under the auspices of French Agricultural Committees 10-18 and 15-27 Case Tractors with Grand Detour Plows won Highest Awards, Gold Medals and First Prizes.

Operating economy is important but rugged durability is even more important. Ruggedness, the ability to stand up under the severest conditions and perform the most strenuous work is an essential quality of every Case Tractor. This quality is the result of a highly developed design and superior construction and is the reason why every Case Tractor may be relied upon to give dependable and efficient service year after year.

The Motor. All Case motors are of the heavy duty, four cylinder, valve-in-head type, built to use kerosene successfully. Developing power well above their rating, they are never overtaxed on their rated loads—another reason for durability.

The Drive. The motor is mounted crosswise on a rigid frame, permitting the use of a few simple spur gears—the most efficient and durable type of drive. All gears and shafts are made of special alloy or carbon steel. The gears are all machine cut, heat treated and run in oil. Anti-friction bearings, held in permanent alignment by the rigid frame, carry all shafts and axles.

Protection. All working parts are enclosed in dust and dirt-proof housings. Gears, bearings and motor parts are all completely enclosed and thoroughly lubricated. A Case patented air washer prolongs the life of the motor and adds to its efficiency.

These dependable, durable Case Tractors are made in three sizes—10-18, 15-27 and 22-40, so as to meet the requirements of any farm.

We also manufacture Grand Detour mouldboard plows, disk plows and tandem disk harrows in various sizes for use with Case Tractors.

Illustrated catalogues explaining the superior qualities of our Tractors, Plows and Harrows mailed upon request.

J. I. CASE THRESHING MACHINE COMPANY
DEPT. P-16 RACINE WIS.

NOTE—We want the public to know that our plows and harrows are NOT the Case plows and harrows made by the J. I. Case Plow Works Co.



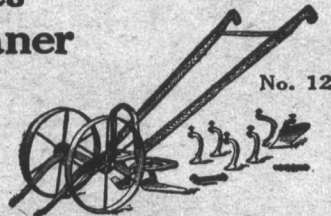
Planet Jr. hoes quicker and cleaner

A Planet Jr. wheel hoe makes light work of the kitchen garden. There's no vicious chopping and stabbing at tender, growing plants when you use this No. 12 Planet Jr. Double and Single Wheel Hoe Combined. Not only does it hoe closer to the row than you can safely work with the old hand hoe, but it does much more—and better—work than you can do in the old way. No. 12 straddles and hoes both sides of a row at once, sliding easily along as you walk. The sharp hoes clip weeds clean off below the surface, and leave a fine protective mulch. So easy to handle, a woman or boy can easily do the garden work, saving

man labor for other more pressing farm work.

Write for complete Planet Jr. catalog today.

S. L. ALLEN & CO., Inc.
Dept. 58
5th & Glenwood Ave. PHILA.



Planet Jr.

HERE'S YOUR CHANCE

Get a **MARTIN** Farm Ditcher Terracer Grader **Free**

Ditch and Terrace Now

To help get bigger crops at less cost I'm going to give 25 MARTINS to farmers. Get the full story. Write at once. The MARTIN makes V-shaped ditches, drainage or irrigation or cleans ditches down to 4-feet. Greatest field terracing tool known. Hoes or tractor. Smashing offer now. Prices slashed. Don't wait. Write OWENSBORO DITCHER & GRADER COMPANY Box 215 Owensboro, Ky.

BOOK ON **DOG DISEASES** And How to Feed

Mailed free to any address by the Author

H. CLAY GLOVER CO., Inc.
118 West 31st Street, New York

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

One third of your life is allotted to sleep. Do you get your share?

The most important period in the process of applying nutrition to the repair of the body is while you are asleep. For the most favorable transformation of digested food into nerve and cell tissue, so doctors tell us, sleep is absolutely essential.

Is it any wonder that those who suffer from lack of proper sleep are weak, pale and lacking in energy or ambition?

One of the causes of insomnia is nerve-irritation from tea and coffee drinking. Tea and coffee both contain caffeine, which has a tendency to cause undue stimulation. The irritating effect of caffeine often results in insomnia, depression, and a weakened nervous system.

You can easily overcome these troubles by drinking Postum instead of tea or coffee. Postum is a delicious cereal beverage and it is absolutely free from caffeine, or any other harmful substance.

Ask your grocer for Postum. Drink this refreshing beverage for ten days. Then see if you will not feel better and more clear headed, and if you do not sleep better at night—as so many other people have proved for themselves.

Postum comes in two forms: Instant Postum (in tins) made instantly in the cup by the addition of boiling water. Postum Cereal (in packages of larger bulk, for those who prefer to make the drink while the meal is being prepared) made by boiling for 20 minutes.

Postum for Health "There's a Reason"

Made by Postum Cereal Co., Inc., Battle Creek, Mich.

A Rack for Feeding Sheep

The Product of Forty Years of Experience

By L. W. Oviatt

REFERRING to your issue of December 23, would state that the rack which Mr. Crofoot doubtless had in mind was the large winged rack we used a number of years ago. Further experience with this rack led us to modify the old type. This old rack was a splendid one, but two or three things led us to change it from the original form.

The first of these reasons was that the old rack required too much lumber and too much labor to construct. Then second, it was so heavy and with the wide wings was so awkward to handle and needed so much room for storage during the summer months, that we set about to overcome in part these objections.

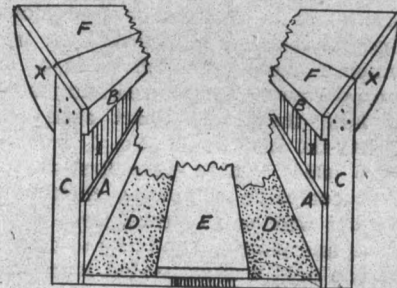
The rack we now use does not shut the sheep away while they are being fed. This change was made because we have found it very desirable to drive the sheep out of the pens at feeding time. No matter how careful the shepherd may be, it is difficult to discover sheep that are out of condition unless they are driven about each day. In driving the sheep from the pens while the feed is being placed in the racks gives the shepherd an opportunity to observe whether any members of the flock are in need of special attention or not.

Our present type of rack is rectangular in form. The bottom is tight and twenty-four inches in width. It is not even, but a center board lays on top of the two outside boards, lapping about an inch on either side, as shown in the smaller illustration. The space on each side of the center board is used as a grain trough. It is possible to fatten lambs on one side of a rack

the rack or feeding. The top sideboards of the rack proper, marked "B," should be six inches in width, or could be used a little wider if desired.

The rack has wings, or sideboards "F," at the top which stand out at an angle of forty-five degrees. These sideboards protect the wool on the backs, shoulders and necks of the sheep from becoming filled with chaff and dust while they stand with their heads in the rack.

If large rangy sheep are to be fed, the lower sideboards "A" should be twelve inches wide instead of ten inches, which is the width found most sat-

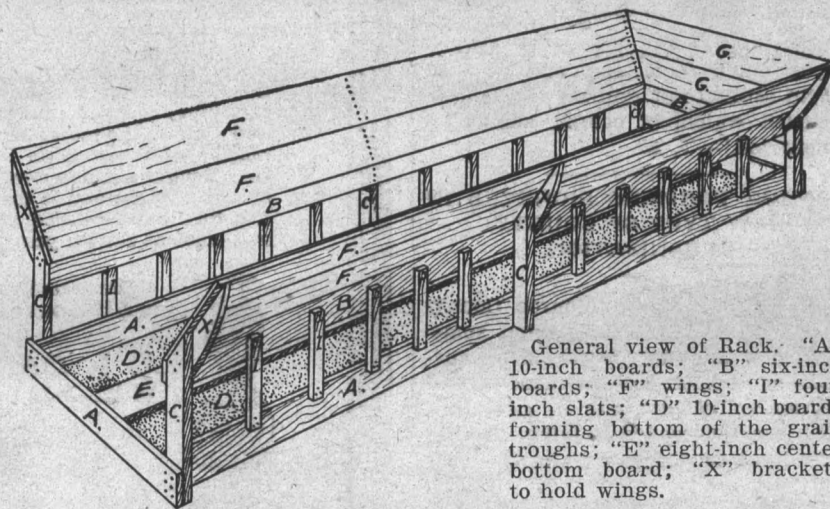


An end view of rack showing manner of constructing the bottom so as to form a shallow feed trough on each side thereof.

isfactory where lambs or ordinary sheep are being handled. The space between the upper and lower sideboards where the sheep reach through, should be about twelve inches wide.

To Construct this Rack.

Let me now tell you how we proceed to build this rack for medium-sized sheep. Cut off six pieces of 2x4, making them square at one end and cutting at an angle of forty-five degrees at the other end. The short side of each



General view of Rack. "A" 10-inch boards; "B" six-inch boards; "F" wings; "I" four-inch slats; "D" 10-inch boards forming bottom of the grain troughs; "E" eight-inch center bottom board; "X" brackets to hold wings.

of this type and keep the breeding ewes on the other side, since the sheep cannot reach across this central board. We make the racks any length up to sixteen feet, according to the room in which we desire to use them.

As shown in the larger illustration, one end of the rack is left open. This open end should be placed next to the feed alley or the feed room so that the operator can walk in easily to clean the rack and to distribute the feed. For all inside feeding, where there is room and where it is not desired to use the rack to keep separate two groups or classes of sheep, the opposite end can be left so that the sheep may pass around it freely.

The lower sideboards and the three bottom boards should be of good strong lumber. Pine is desirable and it should not be planed smooth, since the full thickness of the boards is needed to give the required strength to the rack. The posts, or uprights, marked "C" are of 2x4's and are placed on the outside of the sideboards instead of one the inside, as racks are ordinarily constructed. Built in this way the 2x4's are not in the way when cleaning out

of these 2x4's should be twenty-eight and one-half inches long. From the illustration it will be observed that these 2x4's stand edgewise to the rack. Lay three of these pieces down edgewise on a smooth floor with the shoulder, or short side up. Take a 1x10-inch board and lay the best edge of this board so it will come even with the square ends of the three pieces. One piece should be placed at each end and the other in the middle of the board. Nail this board firmly to the 2x4's. Now take a six-inch board "B" and lay across the other end of the pieces one-half inch below the point of the shoulder. This will leave a space twelve inches wide between the two boards. Nail this board firmly. Now construct the opposite side of the rack in exactly the same way.

Turn these two sides over and nail the dividing slats "I" so they will be on the same side of the boards as the 2x4's are, that is, on the outside of the rack when it is completed. Since it requires about a foot of space for each sheep, these slats should be placed about that distance from center to center. (Continued on page 137).

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SWEET CLOVER For several years I have specialized on raising sweet clover seed and selling direct to farmers. Am equipped with hulling and scarifying machine and my fields are kept free from noxious weeds. Will guarantee satisfaction or your money back. Have both white biennial and Hubam, the new annual. Write for prices. E. E. Basil, R. 3, Latty, O.

POINTS TO CONSIDER WHEN PURCHASING A FARM.

THERE are many points to be considered when purchasing a farm. If you are intending to purchase one some time in the near future it is wise to keep these points fresh in mind so that you may consider them when you go to look at a farm. After these points have been applied and the questions they bring up answered correctly, you will be able to decide if it is the farm you want.

One can easily see the amount of woodland on a farm; he can see if it is hilly or stony and one may also examine the condition of the fences and buildings, but there are other things equally or more important which do not show up so plainly.

One should, of course, examine the soil when there is no snow on it, to determine the kind of soil. Through



the summer months, when the crops are growing is the best time to inspect the producing power of the land. See if the fields have the proper drainage where drainage is needed.

It is very important that you should have a good well. The health of your family depends upon it. Good water is also needed at the barn for the stock. Of course, your wife will need a good cistern at the house, so don't forget to look into this when examining the water supply.

Good roads and a short distance from market, church and school are all valuable assets.

If you have children of school age you will particularly wish to locate near a school house. If you do not happen to have children of school age, it will increase the value of the farm if it is convenient to school. In case you or your children may sometimes wish to sell, it will sell more readily and at a higher price, if it is located within easy walking distance from school.

New improved roads and new drains are being constantly surveyed and laid out. If you are not acquainted with the country in which your prospective farm is located, a talk with the supervisor of the township will tell you if the farm lies within the assessed district of any new road or drains. If it is, an estimate of the taxes to be assessed should be added to the purchase price of the farm.

The supervisor can also give you the assessed valuation of the farm you have in view. If you are a newcomer in the vicinity and do not know the usual price of land in that locality, this will help you, as property is usually assessed at somewhere near three-fourths of its selling value.

If you are a stranger in the neighborhood, try and get acquainted with some of the neighbors before you buy. Not long ago a friend of mine bought a farm. He was not acquainted with any of the people in the neighborhood. After he moved on his farm and became acquainted with them, he found that although they were a thrifty, hard-working people, they were of a different nationality than he. Their customs, religion and social activities were entirely different than those of Mr. Newcomer and his family. They were strangers in a strange land. In less than two years he was ready to sell and seek a new home.

One more word: When you go to look at a farm be sure and take your wife with you. She may discover conveniences or inconveniences about the house and outbuildings which a man would be quite apt to overlook.—G. M. TAYLOR.

The best business sagacity is treating the other fellow fair.

1 1/3 more per dollar

Good News for Farmers!

The Du Pont Company announces a new farm dynamite—

DU PONT CHEMICAL ENGINEERS have developed a new dynamite, Dumorite—and it is going to save you a lot of money. It will blow out 1/3 more stumps per dollar—blast 1/3 more boulders per dollar.

Dumorite has the strength of 40% dynamite and the slow, heaving action of "20%," which make it a better farm explosive, stick for stick, than either of these dynamites. And you can buy 135 to 140 1 1/4 x 8 in. sticks of Dumorite at the price of 100 1 1/4 x 8 in. sticks of "40%." In addition, Dumorite is absolutely non-freezing and positively will not cause headache.

Your dynamite dollar will buy 1/3 more work when you use Dumorite. This makes land clearing a much less expensive operation.

See your local hardware or general store merchant now regarding your season's supply of Dumorite. Write us for the "Farmers' Handbook of Explosives" which gives full instructions for its use.

Ask your County Agent how the Federal Farm Loan System will help you clear your land.

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KEITH'S NEW LAND Strawberry Plants For Big Crops & Big Profits

\$500 to \$700 per acre growing strawberries from Keith's big, healthy, new land plants is not an uncommon yield. Some yield much better. This is proof positive that strawberries are a paying crop. Especially is it so when you plant Keith's vigorous, heavily rooted plants for the home garden or commercial purposes. They are grown on rich, new sandy loam, an ideal soil for plant production, making them big profit winners. Every plant sure to grow.

Our Money Back GUARANTEE You don't take chances in setting Keith's plants. We guarantee our new land plants to reach you in good growing condition, to be strong, healthy, true to name and exactly as described, or refund your money.

Our New Land Plants Insure your success. Strawberries produced from them bring highest market prices. It is because we produce bigger, better berries than plants grown on old soils. Our new land is the best plant soil, filled with natural plant foods, which gives Keith's new land plants their heavier root, size and vigor over all others. We ship at the proper season, freshly dug, direct to you. Securely and carefully packed. They reach you in that ready-to-grow condition. Wait until you get our 1922 catalog before you order. It is free. It contains many pictures illustrating our methods of producing new land plants. Explains why they are so valuable to you. Pictures the highest yielding varieties of Strawberries, Raspberries, Blackberries, Grapes and other small fruits. Some in natural colors. Get catalog on special varieties for your garden or field. It is free. Send today. Receive it tomorrow.

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Every customer of ours receives FREE a copy of KEITH'S WAYS TO SUCCESSFUL BERRY CULTURE

STRAWBERRY PLANTS The real money makers for you to plant, including four best everbearers. Full assortment of other berry plants. The new Cooper Strawberry, most productive, largest and sweetest berry known. 30 yrs. experience growing and packing plants. Great reduction in prices. Wholesale prices on large amounts. Weston's plants are first class and true to name. Our free catalogue tells the truth; a valuable book for the grower. A. R. WESTON & CO., R. F. D. 6, Bridgman, Mich.

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If you wish to know real strawberry satisfaction you must grow our new variety Cooper, one of the greatest strawberries ever grown. Our new catalog tells you all about Cooper. Don't buy a plant until you get our catalog. We can save you money on standard and everbearing strawberries, also on raspberry, blackberry, grape, and other fruit plants. Big Cash Prize Offer. Send for catalog. STEVENSVILLE NURSERIES, Box 80, Stevensville, Michigan

Strawberry Plants \$3.50 Per Thousand. Our strong, healthy, tremendous bearing plants guarantee big crops of luscious berries. Best varieties for all kinds of soils. Full line of Raspberries, Blackberries, Currants and Asparagus. Large stock of extra fine Grape plants. GREATLY REDUCED PRICES. Our customers are making up to \$1200 per acre from small fruits. New color catalog free. Write today. BRIDGMAN NURSERY CO., Box 22, BRIDGMAN, MICH.

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COMPARE THESE FENCE PRICES

You Simply Cannot Beat Pendergast Fence Prices

that's why we invite comparison. Look there are a few prices: 7 strands, 26 inches high, 12 inch spaces, 5.5 pounds per rod, for only 26c per rod, and 8 strands, 32 inches high 6 3/4 inch spaces, 7.7 pounds per rod, for only 36c per rod.

WE PAY THE FREIGHT

Yes Sir! these prices include the freight—delivered right to your station anywhere in Indiana, Ohio, and Michigan. Remember, the above are only a few of the many shown in our new list of low prices. Sit right down now and write for our new folder and price list. If you need fence now is the time to get it at the right price.

PENDERGAST FENCE

Is made of 9 1/4 and 12 1/4 full gauge heavily galvanized wire. Every rod is fully guaranteed to satisfy. We have sold thousands of rods all over this territory and every rod has saved money for the man who bought it. Steel prices are still high but we have a limited supply bought at the low price. We can ship promptly but the supply is limited so don't delay. (Fill out the Coupon Now!)

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PLANT HUBAM

The New ANNUAL Sweet Clover

Hubam is a fast growing white sweet clover—grows 5 to 8 feet the same season. An excellent hay, big yielding and nutritious. In crop rotation, Hubam saves a year, as it is an annual; it means thousands of extra dollars in the pockets of growers. Hubam has been acclaimed the most important crop development in years.

Plant Northern-Grown Hubam
Isbell has adopted this southern clover to northern conditions—has made it hardy, yet big-yielding. Make sure of big crops by procuring Michigan grown Bell Brand Hubam direct from the growers.

**Write Today For Special Prices
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Isbell's 1922 Catalog gives cultural directions—describes the best seeds—points the way to bigger, better crops. Send for it today—it is free—and it will prove very valuable to you.

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Write quick for this valuable 68 page book of strawberry information and art. Written by America's most successful strawberry grower. Explains how he makes poor soil rich without manure or fertilizer and gives his secrets for growing the big crops of summer and fall strawberries that won him fame and fortune. Pictures in colors and tells all about his wonderful new Everbearer that won the \$1,000.00 Cash Prize. Shows 34 pages of strawberries, strawberry fields and gardens in natural color. Gives 30 tested recipes for making the most delicious strawberry dainties. Contains nothing but proven facts. Gives you the benefit of more than 40 years of successful strawberry experience. Send for this valuable book and learn how easy it is to make big money growing Kellogg Strawberries The Kellogg Way. Worth its weight in gold—costs you nothing. Just send your name and address—a postal will do. The book is FREE.

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Strawberry Plants Dunlap 50c per 100, \$4.00 per 1000. 600 crates per acre in 1921. HENRY WATERWAY, R. 4, Holland, Mich.

Francisco Farm Notes

By P. P. Pope

BY the time this letter reaches our readers we will be thinking about the arrival of the little pigs. It is an interesting season with us, and we find that much of the success of it depends upon the preparation we have made. Having some twenty odd sows to care for and three herd boars besides some fattening hogs and fall pigs, we have found it somewhat difficult for a month back, to give the sows the attention we like to.

We have a large basement and barnyard where we allow many of the cattle to run loose.



The waste from the horse stables is dumped about over this run, and this, with the droppings from the cattle, furnish excellent inducement for the brood sows to take the needed exercise. The gilts have had the run of this ground for some time but a few of the older sows have been confined to closer quarters than is good for them.

One of the best hog authorities I ever knew surprised me once by saying that he did not much care what care or feed the brood sow had been given during the fore part of her gestation period, if she could have plenty of exercise, and a liberal, well balanced ration the last month before farrowing, he was sure of a good strong litter. We like to see that our breeding animals get lots of voluntary exercise at all times, but we lay special emphasis upon this last month. You will notice I said "voluntary" exercise. We read in our swine papers about taking the hogs out for a walk of a mile or so every day. That may be all right if the cost is no consideration and the weather is fair, but this time of year I fear most of us would find some other place for our time about the second day. It is the sows that need the exercise, not the busy farmer, and to me, contentment is one of the biggest factors in successful live stock husbandry. If we can keep the animals contented, success is assured. So we like to provide conditions that will make the animals want to take the exercise necessary to keep them in perfect health.

Our big light roomy basement with large yards on the south side is an ideal winter resort for hogs. It is not necessary for the sows to huddle together in their nests to keep warm. They can drop down for a nap any place and the prospect of a bit of food is a signal to be up and after it.

Rations.

So far we have carried the sows along largely on corn and alfalfa. It is a mighty good food ration winter or summer. They relish the nice bright leafy hay as much as the cattle do. It provides the protein and mineral element necessary for the building of a strong bone and body and adds bulk to the ration. We like to come as near approaching summer conditions as possible and to this end we feed some corn in the bundle, also. During the last month or six weeks before farrowing, we will add a protein concentrate, a very little tankage if we can get it, if not a little oilmeal, and some ground oats and middlings in a thin slop.

After farrowing the feed is practically all taken away for a couple of days, being sure, however, that the sow has all the water she will drink and a little alfalfa, if she wants it. We want to make sure that the sow does not become constipated at this time, but at the same time we must avoid

too great a supply of laxative foods or the milk flow will be stimulated to a greater extent than the pigs can stand and milk fever, scours and dead pigs will be the result.

Quarters.

Before farrowing time arrives the manure spreader is brought out and a liberal section of this basement cleaned to the floor. Here the farrowing pens are arranged, ten to twelve feet square—none too much room for big sows—and liberally bedded with wheat straw. The sows are not confined until very close to farrowing, and until the pigs are several days old the bedding is changed often. We try to not let them get damp, as a damp bed is about the worst thing for a young pig. At times it may be necessary to change the bed as often as twice a day, but as the big bay overhead holds a whole wheatfield full of straw and it is only necessary to shove it down—it is an easy matter. I like to keep that whole pen so well bedded that there is a good nest anywhere for sow and litter, thus we rarely have pigs overlaid or inclined to burrow in the bedding. It is close attention at this particular time that pays, and pays big.

Handling.

It is a source of considerable satisfaction to me to have the brood sows tame. It is also good for the sows. I like especially to get on good terms

Income Tax in a Nutshell

WHO? Single persons who had net income of \$1,000 or more, or gross income of \$5,000 or more. Married couples who had net income of \$2,000 or more, or gross income of \$5,000 or more.

WHEN? March 15, 1922, is final date for filing returns and making first payments.

WHERE? Collector of internal revenue for the district in which the person lives, or has his principal place of business.

HOW? Full directions no Form 1040A and Form 1040; also the law and regulations.

WHAT? Four per cent normal tax on taxable income up to \$4,000 in excess of exemption. Eight per cent normal tax on balance of taxable income. Sur-tax from one per cent to sixty-five per cent on net incomes over \$5,000 for the year 1921.

with them before farrowing time. I think there is no class of animals on the farm more responsive to friendly attention, and if they have learned to expect kind treatment they will seldom resent one's presence, should occasion require it at farrowing time. Some animals, like people, are easier to become acquainted with than others, but the touch of a kindly hand, often repeated, will gradually wear away the suspicions of the most distant.

Marking the Litter.

With men who are raising pure-bred hogs to sell for breeding purposes it is highly important that some way be provided for distinguishing the litters one from another. We accomplish this by a series of V-shaped notches cut in the edge of the ear with a marker made for the purpose. A common harness punch will answer the purpose very well. There is a system of ear marks corresponding to numerals which makes it possible to mark most any number of litters up to one thou-

sand, with a high degree of accuracy. We have found it necessary to put a system of this sort into operation as we seldom have over ten litters to mark in any one season, so we mark them in the order of their arrival as follows. First, outer rim left; second, outer rim right; third, inner rim left; fourth, inner rim right; fifth, tip left; sixth, tip right; seventh, two marks close together, outer rim left; eighth, two outer rim right; ninth, two inner rim left; tenth, two inner rim right. If this marking is done when the pigs are only a day or two old it is very easily and quickly done and will hardly draw the blood. We often do the work while the litter is nursing, grasping the proper ear with the left hand and manipulating the market with the right.

INCOME TAX FACTS.

IN making out his income tax return for 1921, the average taxpayer will find a considerable saving in comparison with the same amount of tax paid on the same income for 1920.

The exemptions provided by the revenue act of 1921 are \$1,000 for single persons (the term including widows, widowers, divorcees, and persons separated from husband and wife by mutual agreement), \$2,500 for married persons whose net income was \$5,000 or less, and \$2,000 for married persons whose net income was \$5,000 or more. Under the revenue act of 1918 the personal exemption allowed a married person was \$2,000, regardless of the amount of net income. The personal exemption allowed a married person applies also to the head of a family, man or woman who supports in one household one or more relatives by blood, marriage, or adoption.

The exemptions for dependents—a person who receives his chief support from the taxpayer and who is under eighteen years of age or incapable of self-support because mentally or physically defective—is increased from \$200 to \$400.

The act requires that a return be filed by every single person whose net income for 1921 was \$1,000 or more; every married person whose net income was \$2,000 or more, and by every person—single or married—whose gross income was \$5,000 or more.

The requirement to file a return of gross income of \$5,000 or more regardless of net income is a new provision. Net income is gross income less certain specified deductions for business expenses, losses, bad debts, etc., which are fully explained on the forms.

Returns must be filed by married couples whose combined net income for 1921, including that of dependent minor children, equaled or exceeded \$2,000, or if the combined gross income equaled or exceeded \$5,000.

The period for filing returns is from January 1 to March 15, 1922. Heavy penalties are provided for failure or "willful refusal" to file a return on time.

Forms 1040A for incomes of \$5,000 and less and 1040 for incomes in excess of \$5,000 may be obtained from the offices of collectors of internal revenue and branch offices. The tax may be paid in full at the time of filing the return, or in four equal installments, due on or before March 15, June 15, September 15, and December 15.

STUDY TRACTORS.

THE thirty men who are registered in the four weeks' truck and tractor course at M. A. C., have a greater opportunity than tractor short-course men have had for some time in the chance to study about a dozen different makes of new tractors, recently obtained. This movement of farmers to become experts in handling a tractor bids fair to do much in replacing the professional engineer with real farmers on the tractor seat.—T.

FATTENING HOGS.

IN fattening hogs the sole object is the economic production of pork. As a rule, the animals are forced to the limit of their ability as feeders, fattened and marketed under one year of age. In this respect pork production is similar to that of beef. The same general factors apply in both cases.

Roots are valuable as a food for pigs, during the late fall and winter months. They are mainly desired because of their stored succulence and to serve as a substitute for pasture. In the United States, roots have not been so commonly used as in Canada, or Europe, though of late years they have increased in favor, and their usefulness, especially in the corn belt, is being recognized. Sugar beets, mangels, rutabagas, turnips and carrots are grown as food for hogs. Of these, many persons prefer mangels because they yield well to the acre, although the fattening value of sugar beets is much greater.

Pumpkins and squashes are greatly relished by swine at the beginning of winter. In addition to their succulence, the seed is very rich in protein; thus they make a very good supple-



ment to corn. Pumpkin seeds are a natural vermifuge; therefore, when many pumpkins are fed, care should be taken to see that animals do not eat too many seeds for digestive disorders may follow.

No other food equals corn in the fattening of pigs, and some farmers feed too much corn. Alfalfa or clover hay may be fed with profit. Hay should be fed from a rack and not thrown upon the ground or floor, because animals will trample it under their feet. Skim-milk is highly recommended for fattening purposes, and may be mixed with meal. Ground oats, peas, and barley with shorts are good food.

Care should be taken to provide a pig yard as free from mud as possible. A hog house should have a floor high enough off the ground to be perfectly dry, and it should be built of cement (concrete) or a frame building. It should be papered between the sheathing and siding and be warm enough that feed will never freeze in a trough. Corn in any form, as ear corn, shelled corn or corn meal, is heat-making food. No animal can be expected to thrive unless it has a warm, comfortable place to sleep, with dry straw for bedding.—W. E. McMULLEN.

PUT TREES ON WASTE LAND.

MODERN conditions demand that all the wastes and leaks be eliminated, and this means that all the land should produce something. It is not always possible to make every portion of the farm area yield annual crops, but in such cases one may wisely and profitably try trees. If one-twentieth of each farm tract were set aside for forestry, in time there would be timber to spare.

A great many cliffs and hillsides along our many rivers and streams are fit for little else, and hill land that is very stony may be planted to post-timber trees with much profit. Black locust and catalpa are the most profitable for posts, the locust being given the preference on account of its manner of growth being smoother and the quality of timber the very best.

Grooming puts pep into orchards as well as in horses. The orchard cury-combs are the pruner, sprayer and cultivator.

HAVOLINE OIL

A Good Sign for Farmers

The Havoline Sign—displayed by all dealers who sell Havoline Oil—beckons to the farmer in search of a lubricant of the highest quality.

For Havoline we make none of the hackneyed claims so common in motor oil parlance. At this late date they are out of place. Havoline was the first high grade, branded oil put on the market. Before many other oils were known by name, it had made thousands of staunch friends.

The enviable reputation that Havoline enjoys today for use in automobiles, tractors, and stationary engines is due, not only to its high quality, but also to the fact that this quality has been maintained for so many years.

Keep a five gallon can of Havoline handy. When you are in need of oil on the road look for the Havoline sign. That dealer will sell you the grade you want in the way you want it.

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No Sag - No Bulge - it's Peerless

Stock can't bulge or sag Peerless fence. It's "Stiff-Stay Fence." The cross bars are one piece, and are fastened to the line wires by the famous Peerless circular tie. All this keeps the fence rigid, is proof against sagging from the top or being rooted up from below.

When you put up Peerless wire fence, you can forget all about the fencing question for years to come. And you can buy Peerless quality at the same price that you would pay for the cheapest fences on the market.

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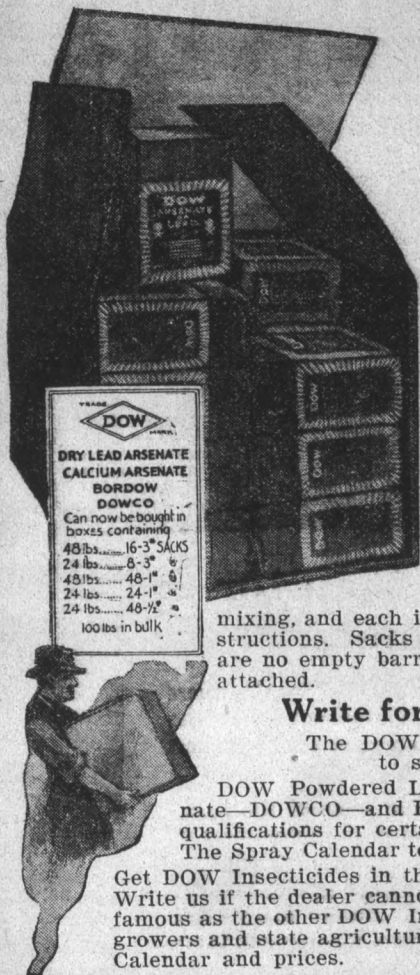
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Think what it means to the grower, especially the big user of spray materials. The three-pound sack is the amount recommended by experiment stations for 100 gallons of spray. You just figure out how many times you want to load the tank, and buy the required number of sacks individually—in cases, or by the carload, as you choose.

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Fruit Problems Discussed

Interesting Subjects Talked Over at New York Horticultural Meeting

CALYX SPRAY IMPORTANT FOR CODLING MOTH CONTROL.

MR. E. P. FELT, state entomologist, said he considered the codling moth one of the most important pests of the orchard. There is no question but what the greatest protection from this insect is afforded by the so-called calyx spray, the treatment just after the blossoms have fallen and before the calyx lobes are closed, and he is of the opinion that no subsequent application can offset to more than a very partial extent poor work in this first spraying.

A NEW SPY.

A NEW apple exhibited for the first time was the Red Spy, propagated at the Geneva Experiment Station by Professor U. P. Hedrick. It is similar to the Northern Spy in flavor and other characteristics, excepting color, which is a bright red. It is supposed to be a sport of the Northern Spy. It equals in attractive color anything that comes from the northwest. As the trees are just coming into bearing its productivity has not been tested.

NEW YORK FRUIT GROWERS' CO-OPERATIVE DOINGS.

AN outline of the operations of the Western New York Fruit Growers' Cooperative Packing Association was given by Nelson R. Peet, manager of the organization. "During the last few years," said Mr. Peet, "there have been developed thirty-five local cooperative central packing house associations in the western New York fruit belt. These are situated in the territory along the southern shore of Lake Ontario from the Niagara river to Oswego, a section one hundred and eighty miles long and forty miles wide. Twenty-nine of these associations have federated into a central association. A little better than a thousand cars of fruit were packed the past season by these twenty-nine associations under one brand.

"The associations are standardizing the pack. The fruit of the members is brought to the packing houses just as it comes from the trees, and is there graded, sized and packed by competent employees and to a standard which is uniform throughout.

"The associations are endeavoring to distribute the product. Too often in the past large quantities of western New York fruit have arrived simultaneously on a market, producing a glut there, which is a loss to everyone and especially to the growers. Recently when we had sold 537 cars our sales department made out a report showing that this fruit had been distributed into one hundred different carlot consuming markets. The associations are now handling about one-tenth of the tonnage." It is Mr. Peet's opinion that higher prices will be reached for the growers when a larger tonnage is handled through the association.

SCALE CONTROL BY DUSTING.

EXTENSIVE experiments have been conducted by Professor Parrott at the Geneva Experiment Station relative to the control of the San Jose scale by dusting. In these experiments none of the sulphides, even though applied in excessive amounts, were as effective as lime-sulphur at standard strength applied as a spray in controlling the scale.

In order to determine the influence of moist bark in facilitating better dis-

tribution and adherence, a series of tests were made in which the trees were sprayed with water before applying the dusting materials. By this method, together with the use of large amounts of the sulphides, varying from twenty to thirty pounds per tree, it was found possible to secure very thorough coating of all surfaces of the trees. The applications of the dusts under these conditions caused severe injuries to the tender unfolding leaves. The burning from the solution sulphide was especially severe, nearly every young leaf being killed. The burning from the barium sulphide was almost as extensive. Dry lime sulphur produced severe scorching, but the damage was much less apparent than with the other sulphides. Although the trees were thoroughly coated, large numbers of living insects were found developing normally beneath heavy deposits even of the sodium sulphur dust.

DUSTING FOR RED BUG.

EXPERIMENTS during 1921 were made in two Niagara county orchards to ascertain the comparative effectiveness of dusting and spraying in controlling apple red bugs. The operations were conducted on a commercial scale, the individual plots containing forty trees of such varieties as Greening and Baldwin, which were twenty years old.

In these experiments it was demonstrated that effective dusting mixtures against red bugs require a larger nicotine content than spraying mixtures, which make the dosage cost for dusting higher than for spraying. However, dusting requires less time than spraying and thus effects great economies in time and labor. At the prevailing prices for materials dusting is more expensive than spraying.

Thorough applications of efficient dusting and spraying mixtures protected both foliage and fruit from important injury. As compared with the condition of untreated trees, there was not only a marked reduction in the percentage of affected apples and leaves, but the injuries as a rule were of less severe type.

STATE FRUIT EXCHANGE CERTAIN.

MICHIGAN fruit growers are making good progress in their organization of a State Fruit Exchange. On January 19 about one hundred representatives of fruit marketing organizations, growers, State Farm Bureau officials and members of the M. A. C. Markets Department held a second fruit conference at Benton Harbor where they discussed the organization and attacked the problems that are before them.

The problems were declared to be those of representation or government for such an exchange, financing and the study of the risks involved. Committees were appointed to investigate thoroughly each of these phases and a third committee, consisting of T. W. Brandford, George Friday, Mr. Pugsley, L. Prator and D. L. Thornton, are laying the groundwork for a constitution and by-laws for the proposed fruit exchange.

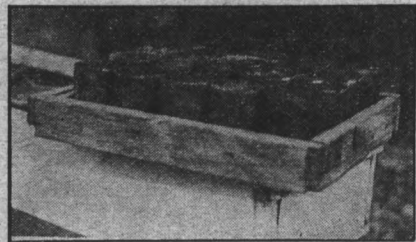
The second Benton Harbor meeting was presided over by James Nicol, the president of the State Farm Bureau. Clark L. Brody, general manager of the farm bureau, was a speaker. Another fruit conference is to be held at Benton Harbor at a date to be set by the fruit growers' committee in charge of framing a constitution.

TO GIVE PLANTS AN EARLY START.

WE have devised a scheme which we have used for several years on our farm and find it very successful. It is an arrangement for giving plants an early start in the spring.

A small crate, with a tight bottom, is made to receive a number of tin cylinders. For these we removed the top and bottom from regular vegetable cans. This can be done by placing a can on the stove on its end until the heat melts the solder when a slight blow will knock it off.

These clinders are placed on end in



the crate and filled with the soil desired. The seeds are planted in them and the crate with its contents is kept in the warmth until it is time for the plants to be reset in the garden soil.

One side of the crate lifts out of slots. A flat piece of tin is then slid under a tin cylinder which is then lifted out and placed in the hole in the ground that has been prepared for it. Dirt is then pressed in about the cylinder, which is then lifted upward leaving its contents in the soil ready to begin its out-door growth. We have tried other schemes, but none were so efficient as this.—P. C. G.

ON THE USE OF LIME.

A TEST was made covering fifteen years of growing truck crops with manure, at the rate of ten cords to the acre, and with other fertilizers. The fertilizer plots yielded good crops for a few years and then failed. Dr. Hartwell, of the Rhode Island Experiment Station, does not advise any fertilizers in continuous crop rotation without green manuring. He said that Rhode Island was responsible for the use of lime, and now it ought to be responsible for saying that there is danger in using too much lime. When you have used up all the acidity in the soil you are in for trouble, especially with such crops as spinach. If you do not get any pink on blue litmus paper, the soil does not need more lime.

INTERESTING FERTILIZER TESTS ON VEGETABLES.

DESCRIBING research work at Kingston, Rhode Island, Director B. L. Hartwell told of a study of the effects of one crop on another. Onions after beets, turnips and cabbage yielded twelve bushels of onions to the acre. Onions planted on grass sod yielded 400 bushels to the acre. The land was well fertilized and the soil slightly acid.

Dr. Hartwell advised the growers that a one-year test is no good, unless one of a series of years for the purpose of getting an average. He said that market gardeners should put on enough fertilizer to supply all the crop's needs. Fertilizers are not a large part of the trucker's bill. Growers must know, however, how to use fertilizers intelligently. He has found that if you plant carrots and turnips on land where phosphoric acid is scarce you will get a complete carrot crop but turnips will hardly make a start.

The soil at Kingston is silty underlain by gravel with natural drainage. In tests with various methods of supplying organic matter, potatoes have been grown for thirty years with success in a rotation of corn and grass, without manure. There was turf on the land a third of the time.

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The Dosch method of insect and disease control with finer quality dusting material plus improved dusting machinery makes it easy to conquer apple scab, bud moth, pear psylla and strawberry weevil—as well as other insects and diseases.

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Write today for valuable free bulletins about these costly destroyers. These bulletins tell of actual orchard and field results. Get accurate, scientific information from our Research Department regarding your particular problem.

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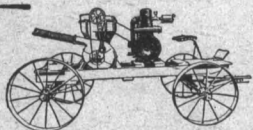
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Planting for Pollination

By S. Van Aken

FOR the last score of years the pollination question has been receiving much attention by orchardists in general, many of whom have said that their trees bloom freely but set little fruit. There are a number of factors which may be responsible for this condition, among them being variety as well as the individual tree characteristic, general vigor of the trees, diseases and weather conditions.

Then again the conditions seem to be ideal, splendid weather, trees in normal vigor, plenty of blossoms, but no fruit. The trouble here may be that the orchard was not properly blocked, so as to fertilize through the blossoms.

Even with all the conditions ideal, as far as above mentioned, should you have large orchards of single varieties, you may have a very light set to fruit. The reason here is that your variety needs crossing with some other variety before it will set its fruit well.

Some growers have practiced spraying the trees while they are in blossom. These spray solutions will injure the blossoms in many cases and will kill the pollen grains.

We find, upon close examination, that we can divide all fruits into two classes: First, those which are self-sterile—that is, those which will not set fruit with their own pollen; and, second, those that will mature fruit with their own pollen. And then, a variety may be sterile in one part of the country but fertile in another.

After some careful observations I suggest a list of apples that blossom together. A little observation, at the proper time, would soon prove whether they were adapted for other distant localities as well.

The varieties that work good together are as follows: For early, Gravenstein, Oldenburg, Red Astrachan, Yellow Transparent, Wealthy, Williams; late varieties, Arkansas Black, Baldwin, Ben Davis, Black Twig, Gano, Grimes Golden, Jonathan, McIntosh, Newton, Northern Spy, Rome Beauty, Spitzenburg, Wagener, Staymen and Yellow Bellflower.

Regardless of whether a variety is sterile or fertile, we believe that it is benefited by crossing—that it will pay to plant more than one variety in a block. However, one need not make the mistake of planting a great many varieties in the same orchard. Some fruit growers are asking the question, how does pollination affect the fruit that is secured?

Many fruit growers claim that the color, flavor and general characteristics of the fruit are changed by pollination. But after a more careful observation we are obliged to conclude that such characteristics are not influenced by pollination. The pollen affects the percentage of set, the size of specimens, and there also seems to be a close connection between the presence of seed and the weight of the fruit. Color is not influenced by pollination. Many changes that take place can be attributed to pruning, fertilization, tillage, and similar orchard management.

In choosing the varieties of fruit to plant, we must bear the pollination question in mind. First, the varieties that we plant must bloom at the same time. Second, if you have but two varieties, they should both be good pollen producers. My observation allows me to give a specific instance.

The Winesap apple rarely produces pollen. Therefore, if you should plant Rome or Spitzenburg alone with Winesap the chances are that the crops of the two former would be very light, whereas the Winesap crop might be splendid.

The blooming periods will vary. The further north we go, and the higher

the attitude we reach, the closer the varieties seem to bloom together. The list for early and late blooming varieties given above, will be of assistance in your plantings. Any variety in the early list will pollinate any other variety in the early list; likewise, any variety in the late list will pollinate any other variety in the same list, the Winesap, however, being perhaps the single exception. You will find, however, in many regions that the Gravenstein, for example, is overlapped by some late varieties by several days, which is sufficient for good pollination.

Service for Fruit Growers

THERE is a great need in North America for a central organization which will combine the forces of existing fruit bodies and which can act as a clearing-house of all information of interest to fruit growers. It will take time and much effort to build up such an organization of sufficient magnitude fully to satisfy this need and to finance its development and work.

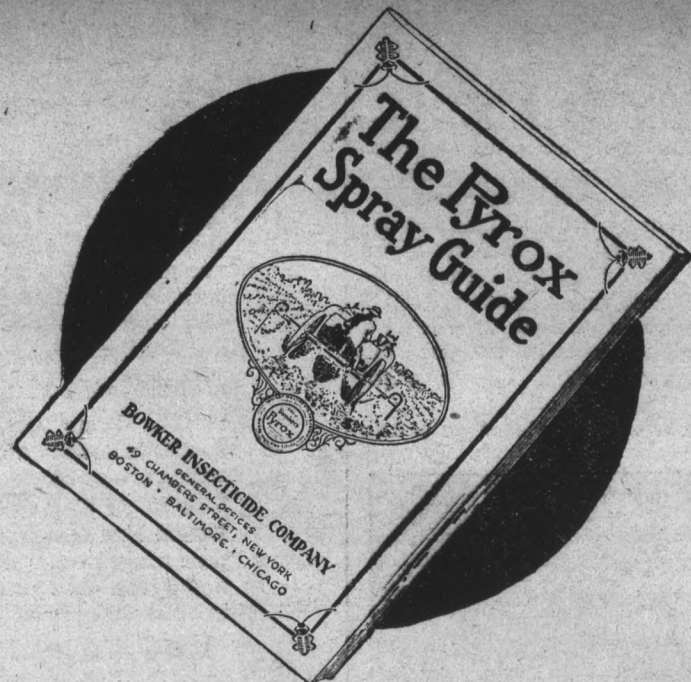
The American Pomological Society for over seventy years an influence for the betterment of the fruit industry, is now reorganized with a broader program and on a business basis, with an active executive committee, a board of business managers and a paid secretary with office facilities. This society has pledged itself to this end.

The services that will be given members in 1922 are:

1. The annual convention, with valuable program.
2. The report of the proceedings of the convention, together with the Pomological Annual containing much material indispensable both to commercial and amateur growers.
3. A quarterly bulletin containing other matter of concern to the society and of permanent value.
4. Letters at frequent intervals which will embody information of current interest.
5. Reports on the size, condition and character of fruit crops gathered and disseminated.
6. A campaign for greater fruit consumption, carried on through all available organizations.
7. Efforts lent to the stimulation of export trade.
8. Affiliation with and service to state, provincial and local horticultural societies.
9. Cooperation with fruit growers' marketing associations.
10. Encouragement of better grading and packing.
11. Encouragement of the breeding of new fruits and the thorough testing and dissemination of valuable kinds.
12. Awarding of prizes for meritorious fruits, worthy inventions and for notable contributions to the science and practice of pomology.
13. Making public the best information on the new means and methods of fruit growing.
14. Condensed reviews of new books and bulletins.
15. Establishment of branches in the colleges of agriculture.
16. Registration of new fruits with accurate descriptions.
17. Legislation encouraged and fostered for the extension and safe-guarding of the fruit interests.
18. Correspondence with the membership from the secretary's office.

Officers.

President, L. H. Bailey, Ithaca, New York; vice-president, Paul C. Stark, Louisiana, Mo.; vice-president, W. T. Macoun, Ottawa, Canada; secretary-treasurer, R. B. Cruickshank, Columbus, Ohio.



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WORLD EVENTS IN PICTURES



Secretary of War Weeks and Mr. Ford in conference over Ford's Muscle Shoals nitrate plant proposition.



Northern society folks go through physical culture stunts on Miami Beach to keep physically fit.



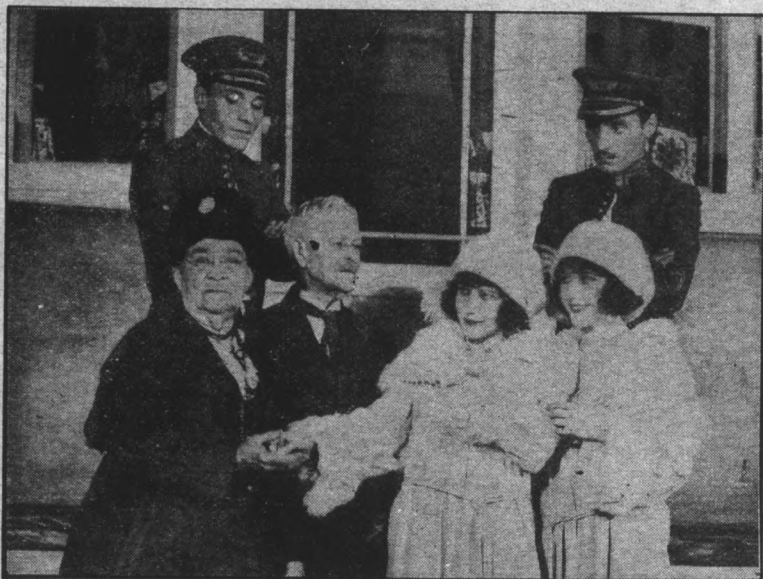
The only man who ever walked from Paris to America.



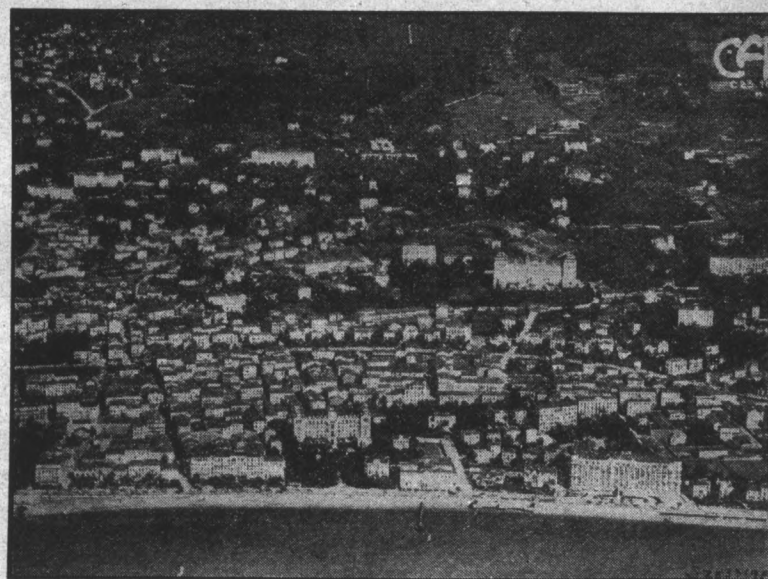
The water carriers of Mexico become quite expert in feats of balancing heavy things on the head.



The long and short of the insurance business meet at convention.



The Fairbanks twins awarding the prize to Mrs. Barry and her twin brother while the Thomson twins look on.



An aerial view of Cannes, the famous French winter resort, where the recent French-English conference was held.



Charles Garland, who recently rejected a million dollar heritage, and his ten-year-old pal.



Miss Ruth Brady, winner of the Central American Beauty Contest.



Machine smokes four cigars at once to test the effect of smoking on the lungs.

THE BLIND MAN'S EYES

By William MacHarg and Edwin Balmer

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"You did not realize before, that the man on the train meant to murder you?" Santoine demanded.

"No," said Eaton.

"I see you understand it now; and that it was the same man—or some one accompanying the man—who tried to run you down this morning. Who is that man?"

"I don't know," Eaton answered.

"You mean you prefer to shield him?"

"Shield him?"

"That is what you are doing, is it not? For, even if you don't know, the man directly, you know in whose cause and under whose direction he murdered Warden—and why and for whom he is attempting to murder you."

Eaton remained silent.

In his intensity, Santoine had lifted himself from his pillows. "Who is that man?" he challenged. "And what is that connection between you and me which, when the attack found and disabled me instead of you, told him that—in spite of his mistake—his result had been accomplished? told him that, if I was dying, a repetition of the attack against you was unnecessary?"

Eaton knew that he had grown very pale; Harriet must be aware of the effect Santoine's words had on him, but he did not dare look at her now to see how much she was comprehending. All his attention was needed to defend himself against Santoine.

"I don't understand." He fought to compose himself.

"It is perfectly plain," Santoine said patiently. "It was believed at first that I had been fatally hurt; it was even reported at one time—I understand—that I was dead; only intimate friends have been informed of my actual condition. Yesterday, for the first time, the newspapers announced the certainty of my recovery; and today an attack is made on you."

"There has been no opportunity for an attack on me before, if this was an attack. On the train I was locked up under charge of the conductor."

"You have been off the train nearly a week."

"But I have been kept here in your house."

"You have been allowed to walk about the grounds."

"But I've been watched all the time; no one could have attacked me without being seen by your guards."

"They did not hesitate to attack you in sight of my daughter."

"But—"

"You are merely challenging my deductions! Will you reply to my questions?—tell me the connection between us?—who are you?"

"No."

"Come here!"

"What?" said Eaton.

"Come here—close to me, beside the bed."

Eaton hesitated, and then obeyed.

"Bend over!"

Eaton stooped, and the blind man's hands seized him. Instantly Eaton withdrew.

"Wait!" Santoine warned. "If you do not stay, I shall call help." One hand went to the bell beside his bed.

Harriet had risen; she met Eaton's gaze warningly and nodded to him to comply. He bent again over the bed.



He felt the blind man's sensitive fingers searching his features, his head, his throat. Eaton gazed at Santoine's face while the fingers were examining him; he could see that Santoine was merely finding confirmation of an impression already gained from what had been told him about Eaton. Santoine showed nothing more than this confirmation; certainly he did not recognize Eaton. More than this, Eaton could not tell.

"Now your hands," Santoine ordered.

Eaton extended one hand and then the other; the blind man felt over them from wrists to the tips of the fingers; then he let himself sink back against the pillows, absorbed in deep thought.

Eaton straightened and looked to Harriet where she was standing at the foot of the bed; she, however, was intently watching her father and did not look Eaton's way.

"You may go," Santoine said at last.

"Go?" Eaton asked.

"You may leave the room. Blatchford will meet you downstairs."

Santaine reached for the house telephone beside his bed—receiver and transmitter on one light bar—and gave directions to have Blatchford await Eaton in the hall below.

Eaton stood an instant longer, study-

ing Santoine and trying fruitlessly to make out what was passing in the blind man's mind. He was distinctly frightened by the revelation he just had had of Santoine's clear, implacable reasoning regarding him; for none of the blind man's deductions about him had been wrong—all had been the exact, though incomplete, truth. It was clear to him that Santoine was close—much closer even than Santoine himself yet appreciated—to knowing Eaton's identity; it was even probable that one single additional fact—the discovery, for instance, that Miss Davis was the source of the second telegram received by Eaton on the train—would reveal everything to Santoine. And Eaton was not certain that Santoine, even without any new information, would not reach the truth unaided at any moment. So Eaton knew that he himself must act before this happened. But so long as the safe in Santoine's study was kept locked or was left open only while some one was in the room with it, he could not act until he had received help from outside; and he had not yet received that help; he could not hurry it or even tell how soon it was likely to come. He had seen Miss Davis several times as she passed through the halls going or coming for her work with Avery; but Blatchford had always been with him, and he had been unable to speak with her or to receive any signal from her.

As his mind reviewed, almost instan-



taneously, these considerations, he glanced again at Harriet; her eyes, this time, met his, but she looked away immediately. He could not tell what effect Santoine's revelations had had on her, except that she seemed to be in complete accord with her father. As he went toward the door, she made no move to accompany him. He went out without speaking and closed the inner and the outer doors behind him; then he went down to Blatchford.

For several minutes after Eaton had left the room, Santoine thought in silence. Harriet stayed motionless, watching him; the extent to which he had been shaken and disturbed by the series of events which had started with Warden's murder, came home strongly to her now that she saw him alone and now that his talk with Eaton had shown partly what was passing in his mind.

"Where are you Harriet?" he asked at last.

She knew it was not necessary to answer him, but merely to move so that he could tell her position; she moved slightly, and his sightless eyes shifted at once to where she stood.

"How did he act?" Santoine asked.

She reviewed swiftly the conversation, supplementing his blind apperceptions of Eaton's manner with what she herself had seen.

"What have been your impressions of Eaton's previous social condition, daughter?" he asked.

She hesitated; she knew that her father would not permit the vague generality that Eaton was "a gentleman." "Exactly what do you mean father?"

"I don't mean, certainly, to ask whether he knows which fork to use at table or enough to keep his napkin on his knee; but you have talked with him, been with him—both on the train and here: have you been able to determine what sort of people he has been accustomed to mix with? Have his friends been business men? Professional men? Society people?"

The deep and unconcealed note of trouble in her father's voice startled her, in her familiarity with every tone and every expression. She answered his question: "I don't know, Father."

"I want you to find out."

"In what way?"

"You must find a way. I shall tell Avery to help." He thought for several moments, while she stood waiting. "We must have that motor and the men in it traced, of course. Harriet, there are certain matters—correspondence—which Avery has been looking after for me; do you know what correspondence I mean?"

"Yes, Father."

"I would rather not have Avery bothered with it just now; I want him to give his whole attention to this present inquiry. You yourself will assume charge of the correspondence of which I speak, daughter."

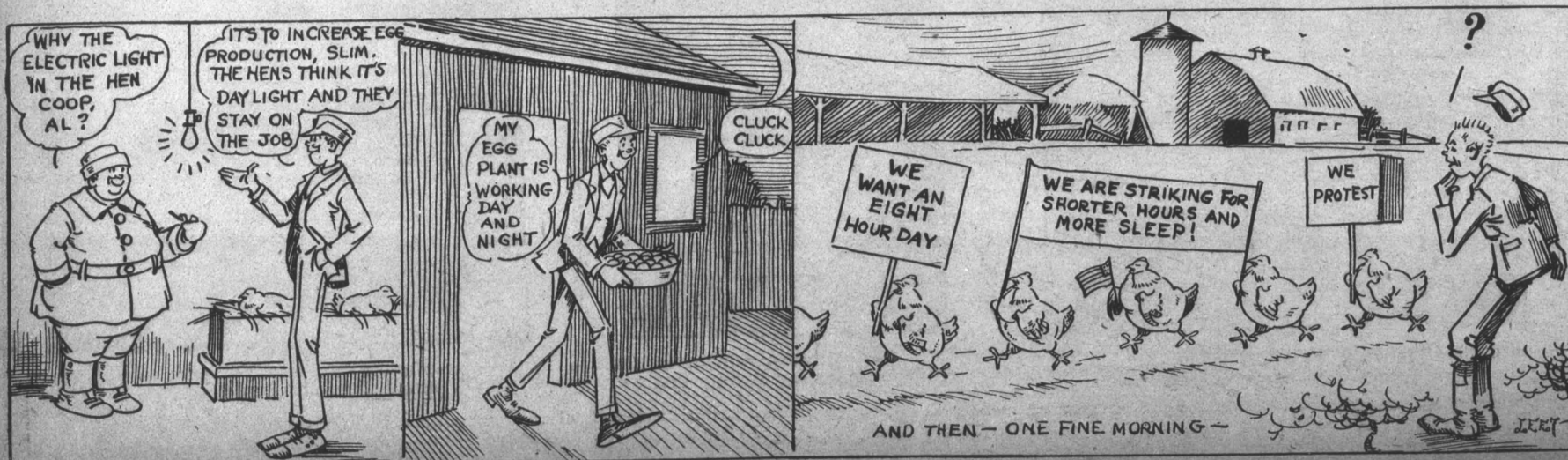
"Yes, Father. Do you want anything else now?"

"Not of you; send Avery to me."

She moved toward the door which led to the circular stair. Her father, she knew, seldom spoke all that was in his mind to any one, even to herself;

—By Frank R. Leet

AL ACRES—AP's Trying to Overwork His Chickens Results In a Walk-Out.



she was accustomed, therefore, to looking for meanings underneath the directions which he gave her, and his present order—that she should take charge of a part of their work which ordinarily had been looked after by Avery—startled and surprised her by its implication that her father might not trust Avery fully. But now, as she halted and looked back at him from the door and saw his troubled face and his fingers nervously pressing together, she recognized that it was not any definite distrust of Avery that had moved him, but only his deeper trust in herself. Blind and obliged to rely on others always in respect of sight, and now still more obliged to rely upon them because he was confined helpless to his bed, Santoine had felt ever since the attack on him some unknown menace over himself and his affairs, some hidden agency, threatening him and through him, the men who trusted him. So, with instinctive caution, she saw now, he had been withdrawing more and more his reliance upon those less closely bound to him—even Avery—and depending more and more on the one he felt he could implicitly trust—herself. As realization of this came to her, she was stirred deeply by the impulse to rush back and throw herself down beside him and assure him of her love and fealty; but seeing him again in deep thought, she controlled herself and went out.

CHAPTER XV.

Donald Avery is Moody.

HARRIET went down the stair into the study; she passed through the study into the main part of the house and found Donald and sent him to her father; then she returned to the study. She closed and fastened the doors, and after glancing about the room, she removed the books in front of the wall-safe to the right of the door, slid back the movable panel, opened the safe and took out a bundle of correspondence. She closed safe and panel and put back the books; and carrying the correspondence to her father's desk, she began to look over it.

This correspondence—a considerable bundle of letters held together with wire clips and the two envelopes bound with tape which she had put into the safe the day before—made up the papers of which her father had spoken to her. These letters represented the contentions of willful, powerful and sometimes ruthless and violent men. Ruin of one man by another—ruin, social or moral, or all three together—was the intention of the principals concerned in this correspondence; too often, she knew, one man or one group had carried out a fierce intent upon another; and sometimes, she was aware, these bitter feuds had carried certain of her father's clients further even than personal or family ruin; fraud, violence and—twice now—even murder were represented by this correspondence; for the papers relating to the Warden and Latron murders were here. There were in this connection the documents concerning the Warden and the Latron properties which her father had brought back with him from the coast; there were letters, now more than five years old, which concerned the government's prosecution of Latron; and, lastly, there were the two envelopes which had just been sent to her father concerning the present organization of the Latron properties.

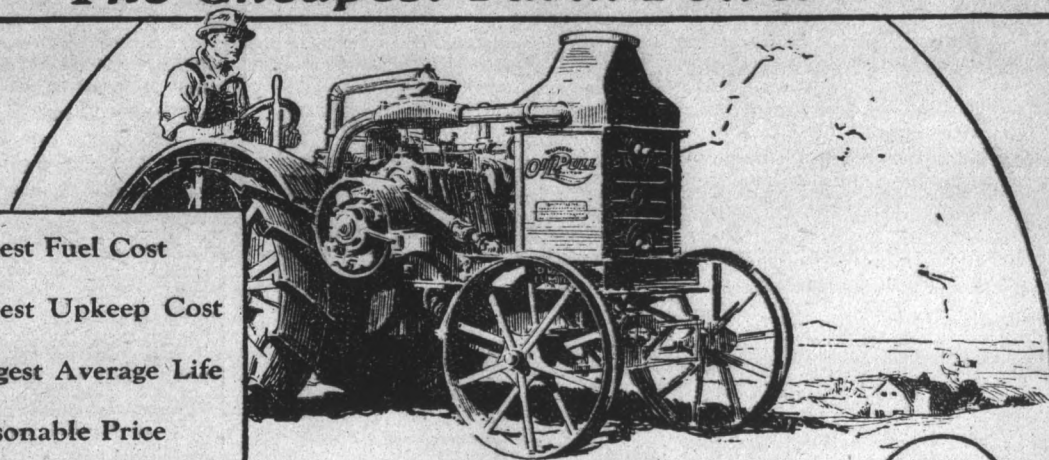
She glanced through these and the others with them. She had felt always the horror of this violent and ruthless side of the men with whom her father dealt; but now she knew that actual appreciation of the crimes that passed as business had been far from her. And, strangely, she now realized that it was not the attacks on Mr. Warden and her father, overwhelming with horror as these had been—which were

(Continued on page 127).

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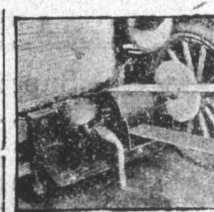
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Some Questions and Answers

Our Weekly Sermon—By N. A. McCune

A READER of the Michigan Farmer writes: "I read your sermons every week, but perhaps like some other girls of my age (twenty-two), I have some doubts about religion, which I am too sensitive to ask any of our ministers about. May I ask you? When I went to high school my professor said we were descendants from animals and therefore we were animals. Now could you please tell me how we could be like Christ if we were animals, for he is surely not an animal."

The high-school teacher probably meant that we are animals on the physical side, which would be true. Man's body is similar to that of the higher animals. On the other hand, man is not an animal, man is a soul, a spirit. I never saw you, you never saw me.



What we see is the body which is the house the spirit lives in. Genesis says that God made man in His own image (1:26), which, of course, does not mean the physical, as God has no body, but is a Spirit (John 4:24). It must refer to Man's spir-

itual nature, the capability of thinking God's thoughts after Him, and of having spiritual attributes of love, loyalty to principle, hope, faith and the like. On the spirit nature of man is built the hope of immortality, as the spirit only survives death.

HOW do we know the Bible is true? Why couldn't it be a made-up religion like the various other religions? How do we know that Christ came down to earth? It's such a long time ago, perhaps the people in other ages made it up just as some people believe in images."

We know the Bible is true for several reasons. First, no one has been able to write another book like it. Take the four gospels. False or apocryphal gospels were written about the time the four gospels were, but they never gained a wide influence. Early in the second and third centuries we find teachers quoting from the four gospels, but not the others. The false gospels simply did not have the power in them, that the real gospels had. Some day, try an experiment. Sit down and write a description of Christ, and see if it sounds as genuine as the descriptions of Him found in the gospels. Next the Bible shows itself to be of something more than human origin, by its effects on those who follow its teachings. Gladstone said that he would risk the whole proposition of whether the Scriptures are inspired, on the book of Psalms. Such a book as "The Psalms of Human Life," shows the mighty power of simply one book in the lives of men and women. Further, what were thought to be errors in the Bible have been ascertained by modern excavations in Palestine and elsewhere not to have been errors. Ancient clay tablets have been dug up that tell a very interesting tale, corroborating some of the disputed points about the Bible. It must be remembered that the Bible is not a book but a whole library, covering several hundred years in its composition. Another point is, that the Bible is not all on one level, one part as valuable as another. It is a progressive revelation of truth, rising higher as you go on, until it reaches its height in Christ, the perfect God-Man. For examples of this idea of progression, see Matthew 5:38,39 and Matthew 19:7,8.

WHY is it in the Bible that God seems to condemn women so much, but praises the men? Do you think men stand a better chance to go to heaven than men?"

I hardly see how any one gets the idea that men are the favorites in Scripture. In the Old Testament women have a large place, especially when you consider that in many nations at that time woman was a slave, or little better. Deborah leads an army to battle and victory, something few modern women have done. Miriam's name and fame are evident in the Exodus. The story of Hannah and her son is immortal. Rebecca figures prominently in the story of the patriarchs, and her deception is left to the reader to condemn. The book of Ruth is entirely given over to the story of woman's loyalty. The Song of Solomon is the tale of a woman's love. Hosea records the heart-break of a man over an unfaithful wife, while Athaliah and Jezebel are forever infamous. In the New Testament, Paul mentions at least seven women by name or refers to them in Romans 16, as among his best friends, and Priscilla is a woman of great influence in the early church. Women of wealth are supporters of Christ and His disciples (Luke 8:3). Women are among the most prominent and active persons in the accounts of the resurrection.

IN the Bible I understand it to say when a person dies he doesn't go to heaven, but lies in the grave in a trance-like sleep. Am I right? The doctrine of the intermediate state has not been emphasized of late, as many believe it should be. No, there is no teaching of our Lord to the effect that the dead are in a trance-like sleep. It is not an unconscious state, if we understand it aright. The intermediate state is one where Christ is, as he indicated in his remark to the thief on the cross. Paul said he would like to depart and be with Christ. If the soul of the believer does not enter heaven at once, it goes to be with its Lord, and that is heaven enough. Many do not accept the teaching of an intermediate state at all, but believe the departed believer goes at once to heaven.

"How do we know that we will live again any more than the animals around us will?" We do not know that we will, from absolute evidence. That is, no one has ever come back from the unseen world to tell us. But we have every reason to believe that we will. If we believe the resurrection of Christ, belief in the immortality of the soul is easy. If we do not believe the resurrection of Christ, we can hardly be Christians at all. On that fact, the whole thing rests. He said that he was preparing a place for us, etc., and the early Christians all believed absolutely in the resurrection from the dead. That is what they preached, and that is what they were persecuted for, I Corinthians 15, Acts 23:6,8 and 24:21. There are other reasons for believing in the deathlessness of the soul. There are a great many unjust conditions in life. There is injustice that we seem unable to correct. People are not born equal in ability or in opportunity. Will these things not be corrected some day? Will a just God permit injustice to go on without a balancing of accounts? "But Abraham said unto him, Son, remember that thou in thy lifetime receivest thy good things, and likewise Lazarus evil things: but now he is comforted, and thou art tormented." In conclusion, it may be said that it is too bad that this young lady did not feel free to go to her own pastor on these questions. I am sure she would have been well received and well answered if she had.

THE BLIND MAN'S EYES.

(Continued from page 125).

bringing that appreciation home to her. It was her understanding now that the attack was not meant for her father but for Eaton.

For when she had believed that some one had meant to murder her father, as Mr. Warden had been murdered, the deed had come within the class of crimes comprehensible to her. She was accustomed to recognize that, at certain times and under special circumstances, her father might be an obstacle to some one who would become desperate enough to attack; but she had supposed that, if such an attack were delivered, it must be made by a man roused to hate his victim, and the deed would be palliated, as far as such a crime could be, by an overwhelming impulse of terror or antipathy at the moment of striking the blow. But she had never contemplated a condition in which a man might murder—or attempt to murder—without hate of his victim. Yet now her father had made it clear that this was such a case. Some one on that train in Montana—acting for himself or for another—had found this stranger, Eaton, an obstacle, in his way. And merely as removing an obstacle, that man had tried to murder Eaton. And when, instead, he had injured Basil Saintoine, apparently fatally, he had been satisfied so that his animus against Eaton had lapsed until the injured man began to recover; and then, when Eaton was out on the open road beside her, that pitiless, passionless enemy had tried again to kill. She had seen the face of the man who drove the motor down upon Eaton, and it had been only calm, determined, businesslike—though the business with which the man had been engaged was murder.

Though Harriet had never believed that Eaton had been concerned in the attack upon her father, her denial of it had been checked and stifled because he would not even defend himself. She had not known what to think; she had seemed to herself to be waiting with her thoughts in abeyance; until he should be cleared, she had tried not to let herself think more about Eaton than was necessary. Now that her father himself had cleared Eaton of that suspicion, her feelings had altered from mere disbelief that he had injured her father to recollection that Mr. Warden had spoken of him only as one who himself had been greatly injured. Eaton was involved with her father in some way; she refused to believe he was against her father, but clearly he was not with him. How could he be involved, then, unless the injury he had suffered was some such act of man against man as these letters and statements represented? She looked carefully through all the contents of the envelopes, but she could not find anything which helped her.

(Continued next week).

WISHIN'.

BY LEROY. W. SNELL.

When January's chillin' blast
Around the strawstack blows,
I huddle near the kitchen stove
To warm my hands and toes.

I eat an apple, dream and think,
And long fer joys o' spring,
'Til in the kettle's croonin' note
I hear the robbins sing.

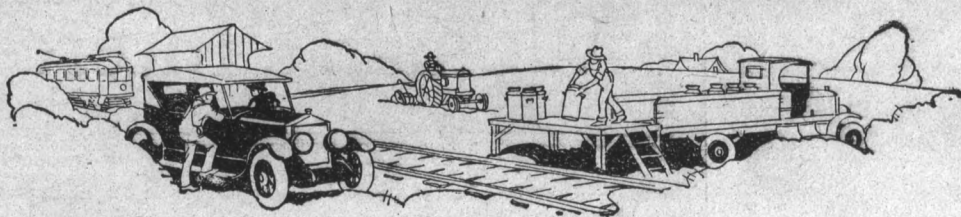
But when spring comes there's plowin'
work.

An' next comes makin' hay,
Then diggin' o' pertaters an'
A stowin' things away.

An' while thru hot an' sweaty days
I labor, sun or rain,
I'm wishin' fer the kitchen stove
An' winter time again.

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God will bear both it and thine.—Anon.

Woman's Interests



The Child and His Fear of Death

By Louise Anderson Macdonald

WHY should we be afraid?" asked Charles Frohman on the sinking Lusitania, as he helped a trembling actress to her place in the life-boat. "Death is the greatest adventure of life."

It is this great adventure of life that puzzles us from the time of our first acquaintance with it until the hour that we meet it. Those of us who are mothers must face this mystery not for ourselves alone, but for the little ones under our care; though not one of us understands the phenomenon.

Children are often obsessed by the fear of death. There is nothing strange about this. The instinct for self-preservation is strong in us all. However weary we may be of life, however much we might intellectually desire the end of the earthly day, if a bandit entered the room with his gun pointing toward us, we should feel one moment of fear, one flinch that is purely physical. And it is well indeed that the instinct for life is so strong. Were it otherwise, who of us would grow to our fullest maturity? For to each of us there come moments of almost unbearable anguish, of such agonizing disappointments, that nothing but the strong instinct to live could restrain us from severing the thread of life. In children that instinct seems doubly strong. That again is natural. They have not the experience which teaches them real from imagined danger; they have not lived long enough to learn the self-control which helps us to conceal physical fears; they do not look with comfort to the life to come, for they would prefer the continued life of the earth to the changed, unknown conditions of spiritual existence.

With all his dread of death, the very little child who has been told of immortality, will not question the possibility of the eternal life, because great is his faith in his parents' knowledge. Yet he will be mystified, as are we all, and will fancy, of course, that hands like our hands will come with the resurrection, and that faces like our own will be ours after death. All in all, are we not each of us very like these children; for who can conceive of a disembodied spirit? Even St. Paul could not, when he spoke of us as clothed with immortality. We are foolish then to try to force the child's mind to grasp that which our own cannot. Why not let the child fancy the new life in terms of this life? As his mind grows, his concepts will mature.

Very little children, to be sure, will accept without question our faith in immortality. Yet earlier than mothers dream, sometimes, arises the question: "How do we know that the soul lives on?" Often we have tried to make this plain to children by a study of the plant life of the world, by comparisons to the seed that falls and is buried, and comes up a living organism. That analogy may satisfy the troubled mind for a time. But it may later see a false analogy. For is not the mystery of the seed more like our mystery of child and parent, than like the miracle of life and death and life

again? This explanation may answer for a few years, but the older child, whose faith requires more than mere analogy, will demand a new proof for his hope of immortality. And we may find it for him in the theory once advanced by a bishop who found himself obliged to argue his faith with a scientist. The bishop was wise in his arguments, for he based his proofs not upon the Holy Scriptures, in which the scientist did not believe, but on the principles of psychological reactions. The human mind, it has been found, desires life after death, which we call immortality. But the mind has never yet desired that which did not exist in whole or in part. No man would ask for gold, if gold were unknown. No one would long for courage if courage did not lodge in some men's hearts. Man could not think to desire that which does not exist. It follows, therefore, as the bishop said, that we could not think to desire immortality, were immortality non-existent. In this proof there is comfort and assurance for us all, young and old; for those who believe in the Hebrew revelations, and for those whose faith can be satisfied by science alone.

After the proof for immortality has been established, the child's mind may still be worried by the thought of the time taken for the transition from this

world to the other. If modern psychic research still seems too experimental to be urged as conclusive evidence of immediate transition, turn with the child again to science. The great principle upon which physical science rests is this: "Energy is nowhere lost." Then why not tell the child frankly that the old school of philosophers has long argued that the soul lay asleep until the earth should pass away, and the day of universal resurrection should come. But tell him, too, that the newer school of philosophers believe that the soul never sleeps in the grave, that it passes at once from the corporeal body into the spiritual life, and in the transition loses no consciousness. A long sleep in the grave, or complete annihilation, would mean a loss of energy. The soul, therefore, argue the scientists of the newer day, must pass at once to its new environment.

To many, the Bible is the great and final source of faith. But a little proof from the scientific world helps the child through the years when he must naturally doubt the truth of the things he most desires. Let not a child be troubled because he is in doubt. Every normal mind has had its days of questioning. No intelligence and no faith ever grew strong without the troubling comradeship of doubt.



The Artificially Fed Infant

By Alta Littell

PROBABLY the most anxious person on the face of the earth is the mother who can not feed her baby naturally, and who is wise enough to understand the difficulties of artificial feeding, but not well enough informed to understand the principles. Nothing is quite so harrowing to nerves as to have a baby crying for food, and not to know just the proper food to give.

If they were only all alike it would so simplify matters. But personal idiosyncrasies crop up here as no place else, and what is one baby's meat is another baby's poison. For that reason, only general principles can be given in an article of this sort, and the mother who has unusual difficulty should consult a good baby specialist.

Most infants can take cows' milk modified in some way. A few cannot, and some of the patented baby foods or condensed milk must be used instead for a few months. The unmodified milk is not fed to babies because it is not exactly like mother's milk, and the deficiencies must be made up. Cow's milk, for instance, does not contain so much sugar and is deficient in iron. This is made up by adding milk sugar to the cow's milk and by giving

and egg yolk to make up for the deficiency in iron.

For the first day the infant should be given nothing but a little boiled water; many physicians do not give food until the third day. Beginning on the second or third day three ounces of milk, seven ounces of boiled water and two teaspoons, level, of milk sugar, should be prepared and divided into seven feedings. If the milk is from your own cows and you know it is pure and clean it may be given raw. If it is bought it is better to pasteurize it. This will destroy most of the injurious bacteria and still preserve the natural taste. To pasteurize, the milk should be raised to a temperature of 155 degrees and kept there for from twenty to thirty minutes. If you have no thermometer, this may be done by putting the milk in a bottle, setting it in a dish of cold water deep enough to entirely surround the milk and then bringing the water to a boil and boiling a half hour.

Both milk and water should be gradually increased in quality until at the beginning of the fourth month the baby should be getting sixteen ounces of milk and sixteen of water. You will

notice that the milk has raised in quantity much faster than the water. The amount of milk sugar is also gradually raised, so that now the sugar is four and a half tablespoons. This should be divided into six feedings if the child is able to stand such long intervals between feedings. Some infants thrive on a schedule with feedings four hours apart, others need a smaller feeding given oftener. Your own judgment must decide this.

After the fourth month the amount of water should be reduced while the amount of milk is increased. A good plan is to add a half ounce of milk every five or six days, and leave out a half ounce of water every two weeks.

If there is trouble with the bowels barley water or oatmeal water or rice water may be added instead of plain water. If there is a tendency to looseness rice water would be better. Oatmeal water should overcome constipation. One or two tablespoons of orange juice, or lacking that, canned or raw tomato juice, may be given after the sixth month. This helps correct a tendency to scurvy. The amount of milk sugar should be reduced after the sixth month.

After the ninth month coddled egg—egg broken in boiling water and allowed to stand five minutes—may be given. Crackers or hard toasted bread may also be fed. Chewing on this is claimed by some authorities to assist in dentition. At this time the baby should be receiving thirty ounces of milk and eight of water and three tablespoons of milk sugar.

After the ninth month increase the milk an ounce per month and decrease the sugar an ounce per month. One cup of cereal water should be added to the milk and sugar.

All food changes should be made gradually. If after making any change the baby's digestion is upset, return to the formula on which he was comfortable and postpone the change for a few days.

Always remember that all formulas are general. They must be adapted to suit the individual baby.

CANDIED CRANBERRIES.

BY DORIS W. M'CRAY.
Candied Cranberries.

CANDIED cranberries are especially useful to add a touch of color to a box of gift candies, or for decorating a cake, or to put in the bon bon dish. They are pricked in three or four places and dropped carefully into boiling syrup, a wire strainer having been put into the syrup first, then after the cranberries have cooked slowly for five minutes, they are removed, using the strainer. They may be allowed to stand over night and cooked again, or else dropped directly on oiled paper, coated with granulated sugar, and allowed to dry. The syrup is made by boiling a half cup of water and one cup of sugar until it threads when dropped from the end of the spoon.

Cranberry Cornstarch Pudding.

One pint of milk, three tablespoons of cornstarch, quarter cup of chopped cranberries, half cup of cocoanut or nuts. The cornstarch is mixed to a smooth paste with a little cold milk, and added to the remainder of the milk heated in the double boiler. This is cooked until thick, stirring occasionally, then the cooked cranberries, and cocoanut are added. It is turned into molds.

Pink Frosting for Cake.

One egg white is used, sifted confectioners sugar is added, also add three tablespoons of concentrated cranberry juice. Stir in enough confectioners' sugar to make it the right consistency to spread. A smaller amount of the frosting would be made for a small cake. The cranberry juice gives a very pretty color, and a flavor which is good with plain cake.

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Lessons In Health Culture

Body, Position and Carriage

By Ruth Selby

MANY people who consider themselves and whom we consider healthy, are really not, for few there are who are not subject to ailments of some sort. Health is not only freedom from pain, it is unimpairment of any faculty or function. It is simply wholeness, and this is your birthright. If you have lost it, or have never yet come in possession of it, still you may by will-power and perseverance, have it. "If thou wilt thou canst be made whole," not by miracle but by the physical laws that govern your being.

If you have colds or catarrh, headaches or other aches, you are not healthy and there is a cause or causes for it. If you do not hold or carry yourself correctly, if you do not breathe properly or your complexion is not clear, your eyes not bright, if you are easily fatigued and do not sleep well, you have not health. If you are over-fat or much under weight, there is some abnormal cause for it. You may be "fairly well, usually," but if you will follow the instructions which I shall endeavor to plainly give, with the determination to have this inestimable asset you may in a large measure reap the reward of your endeavor.

Correct position is one of the fundamental laws of health. Violate the law habitually and sooner or later you will have to pay the penalty. In a careless, double-up attitude of body the internal organs sag and cannot work properly. Whether standing, walking or sitting, there is one rule that invariably holds good, viz., the position of the spinal column must be such that no one part infringes or unduly impinges upon any other part. The human being is a machine, the most wonderful part of which is the spinal column, with its wonderful spinal cord and thirty-one pairs of spinal nerves. Therefore one should be careful that this most vital and delicate part of the anatomical structure is not abused by incorrect positions.

How to Stand.

Seek the center of gravity. Have the weight of the body over the center of the feet—just between the ball of the foot and the heel. The upper portion of the body should be erect but not rigid. If you will keep the head properly raised with an easy poise and the back arched you will find it easy to keep the chest up and the whole carriage good. You will not have to think to "throw the shoulders back," for with this position they are as they should be. One thing you should remember about the shoulders: Do not hold them at all. It gives one a stiff appearance to be striving to hold the shoulders back. Let them droop downward naturally and keep the elbows as far back as possible without strained effort.

Standing in the position described, you will find this exercise beneficial. Raise the arms and stretch high above the head. Slowly bend arms at elbows and bring them down as if you were pulling forcibly. Inhale as you raise them and exhale while you bring them down. Any time you find your position incorrect go through this exercise which can be done sitting as well as standing. To get the best results the exercises which I give should be performed with a good deal of energy, not too rapidly but in a manner that will make you feel the "pull" on your muscles. One will find this exercise very beneficial if only five or six minutes daily are given to it, on arising, in a well ventilated room or before an open window, followed by a quick cold, or cool bath and a brisk rubbing. If you

do not feel thoroughly warm after this bath take a tepid, not warm, bath. The temperature of the room should be such as to make the bath enjoyable—never take a cold bath in a cold room. This bath does not necessarily require a bathtub. You will find a hand-bath taken from an ordinary washtub, or with a sponge or wash-cloth, very refreshing and all that is necessary.

An exercise that will help one greatly in acquiring a good carriage as well as the graceful curve of the back is the following: Hold a rod (an old broomstick makes an ideal one) at the waist-line (back) by the arms, bent at the elbows. With the weight over center of feet, chest up and head well poised, practice walking thus.

One must practice these exercises daily to gain much benefit, and as many times a day as you please. Keep in mind your position and carriage until the correct one becomes a habit.

Besides the benefit to health derived from a proper carriage of body, it also adds dignity and importance to one's personality and is a help in both a business and a social way. We all become impressed by a person who holds the body erect, the head up and whose clear eyes look straight into your own and who walks with energy and purpose. While we are apt to distrust one with a slovenly attitude and carriage. Observe people and not the effect they have upon you.

My next article will be Lung Health and the Great Importance of Proper Breathing.

SOAP RECIPES.

Mrs. M. M. Mc.—Here are a few ways of making soap.—Ed.

Allow five and a half pounds of fat, one and a quarter quarts of water, one can of lye, half pint of ammonia, three tablespoons of borax and three tablespoons of cleaning powder. Pour the water on the lye, heat the fat to lukewarm. When the lye solution is cold, add the ammonia, borax and cleaning powder, and pour slowly onto the fat, stirring for twenty minutes with a long granit spoon or wooden paddle. The mixture should become tan colored and have the consistency of mush. Pour it into a dripping pan lined with newspaper under white cotton cloth (an old piece will do). When firm and white, cut into cakes, pile up to harden, leaving air spaces between the cakes. For the fat you can use chicken oil or half lard and half tallow—all tallow makes the soap too hard. The nicer the grease the nicer and whiter the soap.

Eighteen quarts of rain water, one pound of rosin, one pound of borax. Let all come to a boil, then add two cans of lye. Let boil up again, then add eight pounds of grease, and boil for one hour. Let cool, then cut into cubes and lay on a table to dry out. Make this in the spring or early fall, when there is no danger of the soap freezing, as freezing ruins new soap made this way.

Hard Soap Made Without Rosin.

Boil two boxes of lye in five quarts of soft water. Add eight and two-thirds pounds of grease, and boil until grease melts, or rather is eaten by the lye. Add eight and two-thirds quarts of soft water, and boil two hours. Now add three gallons of hot water, and stir for five minutes.

Pumice Soap.

To make this stir one pound of fine pumice powder well into the above hard-soap-without-rosin solution just before you pour it out to harden. This makes a good soap for scouring dirty hands. It is easier on the skin than a very strong alkali soap.

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The Pathfinders

Milly's Matrimonial Bark Begins to Rock

By Alta L. Littell

THERE had been one serious problem for Milly when she first moved into her new home—how to get time to read or study. This was her first attempt to manage a house and she had none of the conveniences to which she had been accustomed—running water, electricity, a dumb waiter to bring up food from the cellar, an oil stove, kitchen wagon, sink, and bath. Under these circumstances keeping house even for two was a far different matter than "helping mother" in the modernized farm house. It took all her waking moments to get through those first few weeks and, when occasionally she did get time to read, she was too tired to do more than skim over the headlines in the daily papers, or mark articles in magazines which she hoped to read later. At the end of two months of married life she felt as hopelessly out of touch with the busy world she had once known as though she were buried on a South Sea island.

Being a young woman of an active mind and a healthy desire to keep alive as long as she ambled about on top of the earth, she determined that this should not go on. To quote herself, "You might as well be dead all over as dead from the eyebrows up." Accordingly she instituted a plan which gave her time for reading. The fact that her method of systematizing housekeeping shocked all the good women of Poplarville, including her own mother-in-law, bothered her not at all.

Her system was very simple. It was merely to leave the work and sit down immediately after breakfast to read for at least an hour. Sometimes she took longer; it all depended upon the amount of work to be done that day. The only concession she made to labor was to clear away the table. Food was put carefully away, and dishes left until after "study hour." She missed the sink where they might be stacked and filled with running water, but she got around that difficulty. When she and Bob sat down to breakfast, she started the kettle boiling; then all dishes were stacked in the big dishpan, hot water poured over them, and a thick cloth thrown over so that the steam kept the food soft on the dishes which the water did not cover.

On this particular September morning she sat, therefore, blissfully forgetful of dishes, beds, bread about to run over, and tomatoes waiting to be canned, and pored over a bundle of blue-prints. She had been studying them off and on for a month, these prints sent out by the agricultural college to aid her in building her poultry houses, unable to decide between the half-monitor house and the Missouri type. If she could only talk it over with some one, things might clear up; but she was keeping her plans a secret until she was ready to act. Not even Bob knew of her scheme.

So far as utility was concerned she could see no point in which one excelled the other; it was a matter of personal preference. She liked the style of the Missouri house better, but it seemed to her that the half-Monitor type was more like the city man's idea of an up-to-date poultry farm, and might attract more attention and hence be better as an advertiser. This point did not matter so much to her, however, as she had decided to raise White Leghorns, not only for the white eggs which command a higher price than brown ones, but because they were small birds, and light eaters, and more could be taken care of in the same space and for less money than would

provide for heavier birds. So she would have to depend upon distant markets, and chance buyers would not count.

The question had finally settled down to one of money. Which was cheaper? With pencil and paper and quotations from lumbermen and carpenters she was now trying to figure out which house would cost least, and if the saving would be enough to prove a deciding factor. Absorbed in her occupation, she heard nothing of what was going on around her until the screen slammed and Bob stood before her.

It was too provoking! Now everything was spoiled; she would have to tell.

"Starting an architect's office?" Bob asked genially.

"Oh, what did you come in for?" Milly cried. "I didn't want you to know until I had everything planned."

"What the heck?" Bob had come around behind her and was studying the blue prints.

"I'm just trying to figure out what kind of a colony house to build."

"Colony house?" Bob asked. "When do you expect to start building?"

"Just as soon as I can decide on the style of house and order the lumber." Milly chewed her pencil and studied her figures, quite oblivious to Bob's slowly changing face. That he might feel hurt at her planning such a venture without consulting him had never occurred to her, far less the idea that he had a right to expect her to talk over any business matters with him before starting them. "What do you think about it?" she asked finally. "Now you've found out before I was ready to tell you, you might as well give me a little advice."

"Makes no difference to me what you build," Bob answered stiffly. "You've got along so far without asking my opinion, go ahead and build to suit yourself." The slamming of the screen emphasized his reply, as he went back to work, quite forgetting the whetstone for which he had come.

Milly stared at the door in amazement. He was actually mad! If men weren't the queerest things; you never knew which way they were going to jump. Here she was trying her hardest to help him along financially, and this was the thanks she got. If Milly had been a story book heroine, she would have burst into tears at this first symptom of a disagreement between herself and Bob. But being simply a healthy young woman with a fair share of temper she got mad too.

Deep down in her honest heart she knew Bob was right. She should have consulted him. She would most certainly expect him to ask her opinion before he spent five or six hundred dollars, even if he had earned it before they were married. And equal rights, on which she insisted, certainly would demand that she give him the same consideration she claimed for herself. But she had no intention of admitting to him that she thought herself in the wrong—at least not till he came down to earth and admitted he'd acted like a brute.

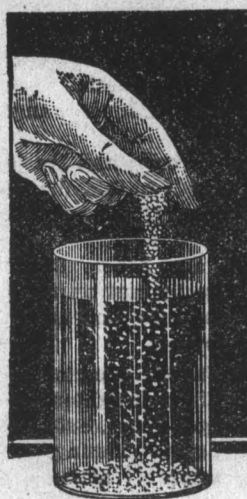
SHORT CUTS.

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DAY OLD CHICKS



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DAY OLD CHICKS

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Additional Poultry Ads. on Page 133

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Mention The Michigan Farmer When Writing Advertisers

Our Boys' and Girls' Department

Uncle Sam Versus the Bad Man

By Joanna N. Kyle

OH dear, goodness gracious me! I wish I had wooden legs, den dey never would get cold."

Ten-year-old Sambo, the child of our colored cook, had been engaged for about fifteen minutes piling logs of firewood on the back porch. It was a raw day in December, not snowy, but a genuine southern winter day, with occasional sleet falling.

Sam seated himself on the bottom step of the back stairs, nursing his cold toes, and went on in a louder, angrier tone:

"My footes is so cold, and Ma is so mean. I's tired of toting dis here wood, and I's hongry, too—cold hongry."

"Haven't you any shoes, Sam?" I asked, pausing an instant on my way to the chicken yard to look after the comfort of the fowls.

"Shoes, Miss Jane?" questioned the boy, his round face brightening up, "Yes, ma'am, I's got shoes, but I keeps dem for Sunday, go to meeting."

"See here, Sambo," I smiled, "you

Oh shout, sister Lucy, for you are free. De Lord's done brought your liberty. Jesus, Jesus died on de cross."

I finished my dish washing, swept up the kitchen and sat down to sew, listening to the slow, dreamy tune. Presently it changed to a lively one.

"Thunder cloud rising, thunder loud rolling.

See Master Lord Jesus come riding by Wid de rainbow on his shoulder."

In shocked haste I raised the window and called out,

"Sambo, you must not take the Lord's name in vain that way!"

"Ma'am?" questioned the wide-eyed boy. "Dat's what de hymn say—I done toted all de wood, Miss Jane."

"Oh, yes, and here's your nickel."

Something boiled over on the stove at this moment, so I hurried away, but the next instant my ears were stunned by a human howl.

"Miss Jane, make Sam lemme alone and behave hisself. He done took my piece of cake and eat it all up."

Is Club Work Worth While?

Some Interesting Figures on Club Members

THE following information was received through questionnaires sent Michigan club members who attended the International Live Stock show at Chicago in November, 1921:

Forty-one members answered questionnaires submitted.

Eighteen were pig club members.

Five were corn club members.

Three were poultry club members.

Six were canning club members.

Nine were calf club members.

Thirty-nine were making first visit to Chicago.

Two not making their first visit to Chicago.

Twenty-eight expect to go to college.

Five want to go to college.

Eight not going to college.

Twenty-four going to M. A. C.

Number of horses owned, five.

Number of sheep owned, two.

Number of chickens owned 250.

Number of acres of land owned, twenty.

Number of pigs owned, 116.

Number of cows and calves owned, twenty-one.

Number of acres of corn owned, seven.

Value of money, Liberty Bonds, War Savings Stamps, etc., owned \$4,256.

Value of live stock, crops, etc., owned, \$7,948.

Value of home furnishings, etc., owned, \$2,231.

Value of canned products owned, \$2,863.

Total value of personal property owned by members, \$17,298.

finish carrying that wood, and I'll see if I haven't got a nickel in my purse for you."

"Yes, ma'am, sure. Say, Miss Jane, will a nickel buy a book?"

"Perhaps. What kind of a book do you want?"

"I dunno. I just want a book. I means to git an education."

"I'll think about it," I called back over my shoulder as I walked away laughing.

Early in the fall, husband had bought a farm in the cotton belt of Georgia, where for the first time in our lives we became acquainted with negro help, and, having no children or grandchildren, I kept little Sambo and his sister, Mary, about the house, for the sake of their youthful company, monkeyfied though it might be. In fact, some of their funny ways while performing the small tasks I set them amused me greatly.

I fed my chickens and hurried back to the house, where I found that Sam had renewed his attack upon the wood pile. He seemed to have forgotten all about the cold weather; he was moving briskly and singing a weird chant. "Come a reeling and a rocking in de land, If you ain't got relegion, you cannot stand.

Jesus, Jesus died on de cross.

Sambo's voice chimed in, singing derisively,

"Oh, Mary Bozy Hoggee, Hoggee, Hoggee."

I went once more to the open window.

"Sam, aren't you ashamed to tease your sister?"

Tears were streaming down Mary's moon-shaped face. The boy, with his mouth crammed full, grinned mischievous enjoyment.

"I eats her cake because she's a bo hog."

"What do you mean by that?"

Sambo put his head on one side and screwed up his eyes. "Wal, I means a ole greedy hog, that's wat—like de old blue sow."

"Sam, do you know what you are doing when you make your sister cry? You are listening to an old bad man,

who tells you to do wrong—old Satan."

"Is dat so, Miss Jane? Would you please, ma'am, draw me a picture of de Bad Man? 'Cause I sure wants to know wat he look like?"

Smiling to myself, I took up a pencil and drew a hideous shape, with a human face, huge wings, sharp claws and a long pointed tail. I did not fail to furnish this demon with his pitchfork.

"Wat he gwyin to do with dat thing?"

"That's what he uses to stick the sinners with and send them back under the lake of fire," I answered.

"Lordy, is dat what he do, sure enough?"

"Isn't he ugly?" I evaded. "Now, wouldn't you like to obey a nice old man, who will give you pretty things, like Santa Claus?"

"Santy didn't give me no Christmas gift dis year, Miss Jane, only jest two little, measley sticks of candy."

"Yes, I know. Its hard times now, and Santa Claus does come mostly to rich folks' children. But the old man I mean doesn't do that way. Now, he sent me word that he wanted all the boys to work for him and he would give them—the smartest fellows, a prize. You shall have a garden and plant some tomatoes—but my good old man will have nothing to do with you if you tease your sister. You will have no time for such nonsense if you work for Uncle Sam. By the way, he is named Sam, too."

"Lordy, is dat so? Could you, please ma'am, draw me his picture, too?"

It was easy for me to copy the familiar figure of Uncle Sam from the newspaper cuts. The boy's admiration followed every line.

"Is he sure gwyin to give a whole lot of prizes?" he questioned. "Why, he look like poor white trash, hisself."

"Oh, yes," I said, "he's rich. He dresses that way because he wants to. In our country one man is just as good as another; and Uncle Sam don't want anybody to think him stuck-up, so he goes round like an old farmer."

That was the way I began my opposition game with Satan, supplying work, not mischief, for idle hands to do. I had read about the clubs for boys and girls organized by the agricultural department, and I determined to do my mite towards the national uplift. When spring arrived, I held Sambo to his job by drawing for him, every day, a picture of the Bad Man, also one of the good old gentleman. Husband laughed at my scheme and made fun of my little nigger pets; but I persisted, and after awhile Sam's tomatoes grew so big that I sent a few specimens to the county fair. To my great delight they actually took a prize.

I shall never forget the joy on that youngster's face when I told him that he had won five dollars.

"Lordy," he cried as soon as he could get his breath, "Now I's gwyin to buy a pig."

"That's a splendid idea," I applauded.

The scamp gave me a droll, sideways look out of his screwed up eyes.

"And den," he continued slowly, "I's gwyin to name my pig MaryBoHog."

"What!" I exclaimed in a tone of severe reproof.

"Why, Miss Jane," he grinned, "I got to have something to call dat name, 'cause I ain't never gwyin to call my sister dat no more. No sirree. Uncle Sam done de square thing by me, and I ain't gwyin to have nothing more to do with old Satan; so dere."



Have You the Seeing Eye?

By Pauline Ward

There is beauty in the river's flow;
In the harvest's golden glow;
Beauty in the seed planted in the
spring;
There's beauty in everything.

THERE is wondrous beauty everywhere. If we can see and feel beauty we can find it in everything, and the more we try to see it the more will our capacity for seeing it increase. In the winter time field, forest, house tops, and hedges are snow covered; out of the bosom of the air descends the snow, each tiny flake a perfect mirror reflecting beauty.

The sense of beauty is a messenger of good cheer to all who have the daily round of tasks to perform and much beauty lies in the task well done. As winter wanes is there not much beauty in the little rills of melted snow that flow through the fields, letting us know it is coming time when the sap of the sugar maple will respond to the warmth of spring. Soon the cackle of the hens and the general awakening about a farm, the bleating of the young lambs and calves and the wistful lowing of the cows, will be filled with gratitude for the coming spring.

Beauty always has a practical side. Anything that adds to our general well being must be of value to us. Isn't the thought of the tiny seed planted in the earth's sweet flowing breast a most beautiful thing, especially when we consider that it returns to us a hundred fold what we trust to it in seed.

It is near-sightedness on our part to push aside the thought of beauty, and leave this only to dreamers and to less busy folks than we are, for we cannot see beauty in the things about us. We say we must make our farms pay, and when we voice our opinions in this way we should also feel assured we can reach that goal without losing sight of the idealism of that ever lasting joy and inspiration that comes from trying to make our efforts successful. Sum success down, define it as you wish, do we not feel most successful on the days that we have put the very best of ourselves into the thing we tried to accomplish? And while we were putting our shoulder to the wheel did we not see and feel the goodness and the beauty of life in general?

To all farmers nature has not only a voice of beauty but of content that it is well for us to listen to. It proclaims a realm of beauty all about us, and we can have a continual feast in seeing the seasons vying with each other to express the beautiful, making pictures for us that we can recall at will and which never fade; becoming treasures that cannot be taken from us. There is as much beauty in the freshly plowed brown earth in spring as there is in the ripened field of grain or other crops if we but see it. One reason is because at the heels of the plowman follow the larks, bluebird, robin, and blackbird picking up grubs that, when developed, would destroy our vegetation. The spring air is vibrant with bird notes! What pleasant company they are and what service they render us free of any charge.

When we lose our sense of the fitness of things, our sense of proportion of values and the zest of living, if we will but listen to the voice of nature we will find the key to contentment and happiness again. There is nothing like going to nature to get the

right point of view. Our surroundings become as near like we would have them as possible, and our tasks become lighter for we become a willing instead of a rebellious worker, and we can perform our tasks in a masterful way.

If we cannot see the beauty of our own fields and woods, we will reap a harvest as we have sown. The sense or the love of the beautiful gives us the impulse to not only beautify our surroundings but to see the wealth of beauty all about us. We, on a farm, need not think of the beauty of distant places, beauty is right at hand. And today is the most opportune time to put forth the effort to find beauty in everything about us.

The orchard, the garden, woodyard, truck patch, grain fields, the patch of woods, the pasture, and in everything that stretches within sight of us on a farm, there is beauty if we will but discover it.

I had spent the week end at a farm not very long ago, and when leaving for home was taken to the station in the family car. The day had been balmy and sunshiny even though it was January. As it was just about sunset time I looked forward to a very pleasant ride through the countryside. The head of the family was intent upon the steering wheel and on watching the road ahead of him. The rest of us marveled at the beauties of nature, and the wonderful sunset sky to the west of us.

"Father," said the young daughter, will you please turn your head ever so little to view this lovely sunset?"

"I'm busy with the machine," he replied, "Enjoy it yourself." But the daughter urged him for several minutes. Finally changing her tactics she said, "All right, then, father; from now on whenever I see or hear anything lovely I will not share it with you."

This aroused him enough to turn his head, to assure himself that he had heard correctly, and in this way he caught a glimpse of the glorious winter sunset, and remarked "that it was very lovely, and no doubt portended good weather for the morrow."

The young lady has since written that her father is trying to define that word beauty more and more every day, and that every day he has spoken of the fine looks of his implements and of the crudest things that were about the farm. The sense of beauty, she said, had only been sleeping in him, as is true of many other folks. It needs a little rousing now and then.

During the time that the writer lived on a farm the daily motto of the family was to have no grouch, not to want the earth, not to be pessimistic, but a confirmed optimist, and also to be a confirmed believer in working with the day to make it beautiful, to see the good and true in everything and everybody as well as the beauty all about us, and especially that of the little bypaths and out of the way places and things. And we found it a very good world to live in, deeming ourselves very fortunate to begin life on a farm.

The open eye to see, what a possession! It all depends upon how we see, whether life is colorful or dull; and let us not wait for a day of leisure to find all the beauty there is near us, for in the busiest day on a farm, we can always keep one corner of each eye open for the beauty to behold.



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

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.

Reduced Prices on Ringlet Barred Rock hatching. ROBERT MARTIN, Woodland, Mich.

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

Barred Rock Cockerels Bred from great layers 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.

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.

Original Dr. Heasley S. C. Buff Leghorn Rock Egg Basket Strain. Officially Certified Egg 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. Specassortto Henry DePreo

Additional Poultry Ads on Page 134



FOREMOST Because of Merit

BUCKEYE "Colony" Brooders are foremost because of merit. They have revolutionized chick raising. Literally they make three chicks grow where one grew before; reduce the labor to a fourth and cut the expenses to half. These brooders have entirely removed the great mortality that made brooding so hazardous. Burn coal, oil or gas.

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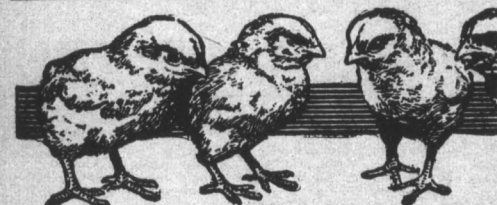


RELIABLE CHICKS

Our 13th Year 700,000 for 1922

By Parcel Post Prepaid—100% Live Delivery. Our Request is: Give us your order for some of our (Reliable Chicks) and we will prove that we will give you better chicks for the money than you can get elsewhere. Combination offers. Order Early. Write for Prices and Free Illustrated Catalog.

HUBER'S RELIABLE HATCHERY,
EAST HIGH STREET, FOSTORIA, OHIO



SURPRISE!

We Have A Surprise For You In

BABY CHICKS

All information free.

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.

CHICKS At Reduced Prices CHICKS

20,000 large, strong, well hatched chicks every Tuesday hatched from eggs laid by selected hens on free range insuring healthy, vigorous chicks that will live and grow into money for you



Barron S.C. White Leghorn, heavy weight and heavy layers American S.C. White Leghorns, heavy laying strains, S.C. Brown Leghorn, the most beautiful Leghorn and a good layer. S.C. Anconas, great layers.

We Ship By Parcels Post and Pay the Postage to Your Door. Catalog free. **WYNGARDEN HATCHERY, Box M, 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

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 mailing 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. **CLINTON HATCHERY & POULTRY FARMS, Wilmington, Ohio.**

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

**ROYAL
BABY CHICKS**

S.C. White Leghorns } 14c postpaid.
S.C. Brown Leghorns }
500 or more 13c postpaid.

Ours chicks are from heavy laying selected breeding stock and will give satisfaction. Customers report hens laying all winter. 100% live delivery guaranteed. Order now for March and April delivery. Catalog free.

Royal Hatchery, R.2, Zeeland, Mich.

Our Friend the Goose

By R. G. Kirby

SINCE the cost of production became more generally considered by producers of poultry many farmers have been surprised to find that geese as a sideline have been one of their best assets. The goose is a grass eater. Grass often grows on land of little value for other purposes. Such land is a great pasture for the geese.

Even on good land farmers have found that the geese will profitably harvest most of their living until time to prepare them for market. They know that the grass which produces the goose meat is cheaper than the grain necessary to make other poultry meat. Our friend, the goose, is not in as much demand as broilers and fat hens. She does not lay winter eggs. But the dollars that she does bring to the breeder are made at a comparatively low cost of production.

Last year we had correspondence with several breeders of pure-bred geese and most of them had sold all of their hatching eggs for the season when the season was only about half over. Some of them were accepting

providing there is plenty of range to help in avoiding crowded conditions.

It is assumed that the breeder will consider nothing but pure-bred geese. Grades will produce meat but the pure-breds look better and the carcasses will be more uniform in quality and type when the birds are marketed. And the chance of selling hatching eggs and breeding stock cannot be neglected without some loss even if no advertising is done and the breeding stock is only sold occasionally to buyers in the section.

A fine flock of pure-bred geese on a farm is a constant advertisement. They stand out in the field like a finely painted signboard. The motorists that pass the farm are prospective buyers and on a good road this traffic is a constantly increasing chance to cash in on sideline crops.

Geese do not need as much housing as other poultry. Even during the severe winter storms they often seem to enjoy resting on their range headed in to the wind. However, it pays to have an open shed or colony house where they can stay nights. This should be dry and on a well-drained site. It serves as headquarters for feeding the geese during the winter and can be locked at night if the geese are in danger from thieves.

Geese may be kept for breeders for as much as ten years or longer. Most breeders do not like to keep ganders more than three or four years. The trios of breeding geese should be mated up several months before the breeding season to insure good results. When once mated the trio seem to think more of each other than in the case of other farm fowls. Successful matings should not be broken up except when the birds become old or it is necessary to make sales.

Goslings can be raised by feeding tender bits of grass for the first two days. Then feed a mash four or five times a day, consisting of two-thirds middlings and one-third corn meal. After the first week scalded cracked corn is good. But the young geese are great grass eaters and a grassy range will furnish them with abundant food for growth. Some breeders have raised goslings successfully by first feeding dry bread soaked in milk and pressed out.

A mash consisting of equal parts of bran, ground oats and corn meal by weight is a good feed for geese during the winter and better than whole grain. The crop of a goose is better suited to handle green feed and mash than hard grain. Mangels, clover chaff, and all succulent vegetables help in feeding the geese. They are much like a cow in their feed requirements.

Sometimes geese are fed too much corn during the winter and become too fat for breeding purposes. This results in many infertile eggs. An occasional examination of the geese during the winter will determine their physical condition and then any necessary changes in the ration can be made.

BULK IN GREEN FOOD NECESSARY.

GREEN food cannot be given to the poultry in the form of tablets dissolved in water. The value of the green food consists in its bulky nature and such material is needed to mix with the more concentrated feed. Just as we need vegetables such as celery,



orders on condition that the eggs should be produced a month or two later. In all cases we found that the breeders of pure-bred geese were doing a good business and several of them regretted that they did not have more stock to avoid sending back the checks to buyers of eggs.

There are two principal outlets for the grown geese. There is a good market for high-class pure-bred stock among breeders who are buying trios as a foundation for their flocks. Many old breeders will need new blood and this gives a market for the surplus ganders at a premium over meat prices.

The goose is the great holiday bird and finds ready sale on the large city markets at that time. Orders can be obtained from local dealers in advance of the holiday trade so that buyers will be assured when the geese have been fattened and prepared for delivery. One trio of breeding birds gives the farmer a chance to develop a large flock of geese each year. Then only a few of the best need be retained after the holiday season and they form the basis for the growing of another fairly large flock during the next year.

Geese will probably do the best near a body of water as the location will bring much feed that the geese relish. Waste land will be useful for a large flock. However, fine success can be obtained on any farm with a grass pasture which is not grazed too closely by other stock. A large body of water might even be a handicap in keeping the geese near home. These birds will not harm a pasture for other stock,



WAIT! LOOK at MY PRICE

My 1922 offer is the sensation of the incubator industry. Others can't understand how I can sell such a superbly built, scientifically correct hatching machine at such an astonishing price. My answer is that I have smashed all records for big production—built in such huge quantities that I can afford to sell at this almost unbelievable price—and still make an honest profit. Furthermore, there is no "Profitless Inc." about this.

DETROIT Guaranteed Incubators and Brooders

All sold under Unconditional Guarantee of Satisfaction or Your Money Back. You're safe to order direct from this ad.



\$7.10 For **DETROIT** Brooder

140-chick capacity, hot-water heated, double walls. Equals many brooders selling at twice as much. Order at once. Act quick.

140-Egg Capacity Sent Complete Ready to Use When You Receive It

DETROIT Incubator Company Dept. 11 Merritt St., Detroit, Mich.

Biggest Hatches Strong Chicks

That's what you'll get with a Champion Belle City Hatching Outfit. My Free Book "Hatching Facts" tells how—gives newest ideas and quickest ways to make poultry pay big with my

\$13 140-Egg Champion Belle City Incubator

Double Walls Fibre Board—Hot-Water Copper Tank—Self-Regulated Safety Lamp—Thermometer & Holder—Egg Tester—Deep Nursery. **\$7.95** buys 140-Chick Hot-Water Double-Walled Brooder **\$19.95**

Express Prepaid East of Rockies

I ship quick from Buffalo, Minneapolis, Kansas City or Racine. With this Guaranteed Hatching Outfit and my Guide Book for setting up and operating you can make a big income. You can also easily share in my **\$1000 in Gold**

Without cost or obligation. Save time—Order Now—or write today for my Free Book, "Hatching Facts". It tells the whole story.—Jim Rohan, Pres.

Belle City Incubator Co., Box 14 Racine, Wis.

You Take No RISK With An Ironclad 30 Days Trial

150 EGG INCUBATOR \$19.75

Set up complete ready to run. 30 day's trial—money back if not O. K. Write for free catalogue or order direct from this advertisement.

260 Egg Incubator \$28.75

IRONCLAD INCUBATOR CO. Box 77 Racine, Wis.

FREE Continental Baby Chick Book

Bigger Better BABY CHICKS

We want to send you our big, FREE Baby Chick Book. Get it today and find out how "Continental" chicks can be guaranteed to grow faster and lay more eggs. Every chick guaranteed from best, pure bred stock. Big, strong and husky. All breeds. Safe delivery guaranteed, charges paid. You can't go wrong on "Continental" chicks. Write for free book and prices before you buy.

Continental Hatcheries Box 231 Springfield, Ohio

Keep Your Hens a Laying

"SUCCESSFUL" Incubators and Brooders

Used by the big money-makers who stay in business year after year. Poultry Lessons Free. Booklet, "How to Raise 48 Out of 50 Chicks," 10 cents. Catalog Free. Write today.

OS MOORE INCUBATOR CO. 368 Second Street, Des Moines, Iowa

Free-Conkey's Poultry Book

80 pages chock full of information about the feeding and rearing of chicks, culling of hens, etc. Tells how to keep chickens healthy and how to make them pay. Whether a beginner or a professional, Conkey's Book is worth dollars to you. Sent for 6 cents in stamps to pay postage.

THE G. E. CONKEY CO. 6514 Broadway, Cleveland, Ohio

25c will bring you semi-monthly utility farm poultry newspaper one whole year as trial.

POULTRY GUIDE, Box D, Montpelier, Indiana

beets and onions, the hens do better if they have mangels, cabbages and clover to go with their grain ration and beef scrap. Certain chemical elements of the green food might be in the tablets but the bulk is not there.

FUTURE EGG PRICES.

POULTRYMEN are familiar with the sudden drop in the egg market which occurred last spring. It happened just after a winter when egg prices were high and many breeders were planning on buying hatching eggs and day-old chicks or increasing their flocks from their own stock. Immediately after that drop in egg prices the hatcheries reported cancellations of orders for day-old chicks. Many breeders selling hatching eggs did not report as large a business as expected.

The cancellations and slowing up of hatching operations resulted from the low egg prices. Breeders began to feel that eggs were going the way of other farm products. So they were discouraged and about ready to leave the business. What happened? After the chances for early hatching were gone, egg prices began to advance and during the last few months many farmers have been ready to admit that eggs were the only profitable thing on their farms. In the west there are many farms with heaps of corn they cannot market and no stock to eat it. Suppose some of them had a few hundred laying pullets with eggs at the prices they have been at least until late December. They would be less discouraged than at present and the egg money would be very useful.

So next spring eggs may go down in price. If you expect to improve your flock or establish a pure-bred flock of heavy laying hens, do not become discouraged because eggs are low during April. If a poultryman cannot be optimistic in the spring he faces a handicap for the year. If thrifty chicks are not started early in the spring they cannot reach laying age in the early fall. There are twelve months in every year. So do not base the success or failure of your poultry prospects on the lowest price that is paid for spring eggs.—G.

POULTRY QUESTIONS.

How many turkey hens can a tom take care of? Is whole wheat ground more economical to feed than to sell wheat and buy bran to feed? What per cent of protein is contained in whole wheat flour?—M. S.

A tom to every four or six hens is the usual plan in mating turkeys. Whole wheat flour contains 13.8 proteid. In feeding poultry, a balanced mash is necessary for best results in egg production. Under ordinary circumstances it pays to sell whole wheat and buy bran to mix with the egg mash which, of course, will contain other ingredients. Many poultrymen buy the commercial mixed mashes and have good results and find the purchase economical.

A great deal of wheat can be fed to poultry as scratch feed and very few poultrymen have any surplus of wheat above their needs for that purpose. It will be fine for the growing stock next summer and it will hardly pay to have any wheat ground which can be used for scratch grain. Bran contains very little nourishment and is only useful to give bulk to the hen's ration and keep the digestive system in good order. A farmer with much poultry to feed can hardly afford to sell the wheat at present prices and buy other feeds as the wheat is about as big a bargain in poultry feed as it is possible to find.

Farmers of the central west receive twenty to forty per cent less for their eggs than do the eastern and far-western producers, because their product lacks the uniformity that the market demands.

Why Take Chances?

Why Pay More

For only \$17.75 you can get these two unbeatable machines delivered, freight paid east of the Rockies. You take no risk—money back if not satisfied. On the market 21 years.

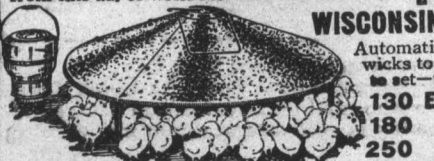
Both Machines \$17.75 Freight Paid For Only

180 Egg Incubator & 180 Chick Brooder Both \$22

If you prefer a larger machine, our 250 Egg size at only \$22.00 or our 250 Egg shown here at only \$30.00, with brooders, are real bargains.

Freight paid east of Rockies!

Wisconsin have hot water heat, double walls, air space between, double glass doors, copper tanks and boilers, self regulating. Made of California Redwood. Incubators finished in natural colors—not painted to cover up cheap, shoddy material. Three sizes, shipped complete with thermometers, egg tester, lamp, etc., set up all ready to use. If not satisfactory after 30 days trial, send them back and get your money. Order direct from this ad, or write for free 1922 Catalog.

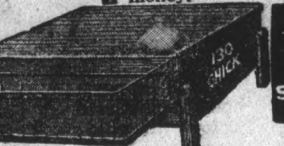


WISCONSIN INCUBATOR COMPANY, Box 92, Racine, Wis.

Find Out What An Incubator Is Made of Before You Buy

Send for our Free Catalog and we will send you a sample of the material used in Wisconsin Incubators and Brooders. Then you will know which machines are built best, which will last longest and which will give you the most value for your money.

MONEY BACK IF NOT SATISFIED



This 250 Egg Incubator & 250 Chick Brooder Both for Only \$30

WISCONSIN COLONY BROODERS

Automatic control—can't go out—can't overflow—no wicks to carbon—burns steady blue flame—no valves to set—the best colony brooder on the market.

130 Egg Incubator with Colony Brooder \$22.25

180 " " " " " 27.75

250 " " " " " 34.25

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HOT HEN

BRINGS The EGGS INCREASES The PROFITS

A brand new scientific discovery that makes layers out of loafers. Through its use you get every egg each hen should lay and keep her healthy at the same time. We guarantee increased egg production or money refunded. Our service department will keep in touch with you and help you get results. Send \$1.00 for liberal sample order.

SCIENTIFIC FARM PRODUCTS CO. 724 Monroe St., Toledo, Ohio

LEE'S LICE KILLER

Kills lice, mites, bed bugs, etc., affecting poultry. Spray or dip 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 stock towns, at stores handling Lee Poultry Supplies. Write for information and FREE Book.

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64 BREEDS Most Profitable pure-bred Northern raised chickens, ducks, geese, turkeys, fowls, eggs, incubators at reduced prices. 29th year. Largest plant. Large valuable poultry book and catalog free.

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Finest strain Barron White Leghorns, Barred Rocks, R. I. Reds, Northern grown, free range, rugged stock. Low prices. Safe delivery. Catalog. Book early.

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PURE BRED CHICKS March and April Prices

White Leghorns \$17.75 and \$2.25 for 100, 50 and 25 chicks. Barred Rock and R. I. Reds \$18.00 and \$2.25. White Wyandottes and Rocks, 100 for \$18.00, 50 for \$9.50, 25 for \$5.00. Parcel post paid. Order from this ad. Meadow Brook Hatchery, Ross Wade, Prop., Mt. Morris, Mich. Located 4 miles east of Mt. Morris on Genesee St., one mile north and one mile east. Phone No. 14-5 Valley phone.

STILL BABY WATER CHICKS

All standard varieties. Our free catalog tells all about them.

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BABY CHICKS

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.

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CHICKS

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

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EVERLAY FARM, Box 6 Portland, Ind.

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White and Buff Leghorns, Barred Rocks, Plymouth Rocks, Rhode Island Reds and White Wyandottes, 25 for \$5.25, 50 for \$10.00, 100 for \$18.00. FENTON CHICKEN HATCHERY, Box 244, Fenton, Michigan

BABY CHICKS. All popular varieties from selected flocks at living prices. Write for circular and price list.

DERR & ADAMS, Litchfield, Mich

Buy Baby Chicks Now. Don't wait! Order March and April chicks now so as not to be disappointed. My hatcheries are located in the heart of the best poultry country. My flocks have been culled. Get heavy egg producers. White and Brown Leghorns and Anconas. Safe arrival guaranteed. Write for prices.

Herman J. Cook, 133 W. Main St., Zeeland, Mich

Baby Chicks and Hatching Eggs

S. C. English White Leghorns. Bred from heavy egg producing strain from our own free range poultry farm. Circulars free. **VILLAGE VIEW POULTRY FARM, R. 3, Zeeland, Mich.**

BABY CHICKS. White Leghorns, White Rocks, Barred Rocks, Buff Rocks, Anconas, R. I. Reds, Black Minorcas. 25 for \$5.50, 50 for \$10.00, 100 for \$18.00. Postage paid, 95% live arrival guaranteed.

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BABY CHICKS \$13 per 100 and up. Reds. SEND FOR PRICE LIST. **CONNERS CHICK HATCHERY, Oxford, Mich.**

Chicks From "Michigan's Old Reliable Hatchery." S. C. White Leghorns, (3 grades), Anconas, White and Barred Plymouth Rocks and Reds. Fine strong, sturdy chicks from Grand, bred-to-lay, Hogenized, free range breeders. Prepaid by mail, 100% alive on arrival. Sold on guarantee to satisfy or money back, 15,000 every week, 14th season. Get my low price and valuable illustrated 1922 free catalogue, and place your order where you get your money's worth. Write W. Van APPELDORN, R. 7, Holland, Mich.

Pedigreed WHITE LEIGHORNS Trapped Lay 265 to 313 eggs per year. Winners at 50 shows. Chicks, eggs, pullets, hens and males shipped C.O.D. at amazingly low prices. Write for Free catalog and prepaid bargain list to the World's largest Leghorn Farms. **GEO. B. FERRIS, 9342 Union, Grand Rapids, Mich**

Chicks of Quality pure bred S. C. White Leghorns for egg production and best standard qualities for prompt delivery; order now; new low price catalog free. **Riverview Poultry Farm, R. 2, Zeeland, Mich.**

CHICKS Bred-to-lay S. C. W. Leghorns, S. C. Anconas and Barred Rocks, quality chicks that please, guaranteed full count, parcels post paid. Leghorns \$14.00 per 100. Anconas and Rocks \$17.00 per 100. Special prices 500 to 1000. Circular. **Sunnybrook Poultry Farm, Hillsdale, Mich.**

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FOR SALE, Buff Orpington Cockerels and Toulouse Geese. **MRS. M. E. NOBLE, Saline, Mich.**

Additional Poultry Ads. on Page 143

This Valuable Cow Book FREE!

Van Pelts Cow Demonstration
by **Hugh S. Van Pelt**

Tells how to pick out Good Cows

This 84-page book is worth its weight in gold. Its author, Hugh G. Van Pelt, a prominent dairy editor and former professor of dairying, is a practical dairyman and one of the best judges of dairy cattle in the country. It is so plain and simple that any one can use it as a guide in selecting good cows, and building up a herd for large and profitable production. We will gladly send you this book free of charge if you will fill out the blank below and send us the names of

How to Get it

five people who will need cream separators or milking machines within a year's time. Any one who is wasting cream by using an old, worn-out or "balky" separator, or by hand skimming, needs a De Laval Separator. Any one who is milking ten or more cows by hand needs a De Laval Milker. If you cannot give five names, we will send you this book on receipt of 20 cents.

THE DE LAVAL SEPARATOR CO., 165 Broadway, New York City.

Please send me Van Pelts Cow Demonstration Book, for which I am sending you the names of five people who need De Laval Cream Separators or Milkers. (Include your own name if you need a separator or milker.) 43

Name _____ P.O. _____ R.F.D. _____ State _____

NOTE—After each name, in last column, mark S if person needs a separator, M for milker, SM for both.

NAME	P.O.	R.F.D.	State	No. Milk Cows	Prospect For
1.					
2.					
3.					
4.					
5.					

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"We used your 19-inch cutter to fill our 108-foot silo, putting it over the top without using near all the power of a 20-h. p. steam engine, the machine running at normal speed."—E. E. Heckman, Salona, Pa.

No silo is too high for a Papec. We guarantee that any Papec Cutter will cut and elevate more ensilage, with the same power, than any other blower cutter. You can't go wrong in buying

The Powerful PAPEC Ensilage Cutter

The Papec runs easier because it is built simpler. The silage is thrown from the knives far up the blower pipe. It is then caught by a powerful air blast concentrated into small diameter that carries over the top of the highest silo.

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A few entries weekly in this 50-page Book will show you at any time where you stand with your farming business. Write us the size of your silo, or the size you intend to buy, and the name and address of your dealer. We'll mail the Book promptly. Worth a dollar to any farmer. Ask also for Free Catalog.

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86 Distributing Houses Give Prompt Service



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Albion steel and wood mills are quiet and powerful. One-third the working parts of any other mill. Only main piston bearing subject to wear. This is oilless, and easily replaceable. Govers by dependable weight without springs. Fits any 4-post steel tower. Why not shorten your chore hours now with a good Windmill? This is your chance—F. O. B. Albion. Erect it yourself. Ask your dealer, or write direct to Union Steel Products Co. Ltd., No. 528 N. Berrien Street, ALBION, MICHIGAN, U. S. A.

Farmers Ask About High Class SILOS Low Price--Agents Wanted QUALITY MFG. CO., Hagerstown, Md

EMPIRE MOLASSES Makes Milk Fattens Fast. er. Quickens Growth. Doubles work horse power. Write today for No-Risk Trial Offer. CHICAGO MOLASSES CO., 1131 East 77th St., Chicago, Ill.

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Grinding Saves Grain

Ground feed makes better stock—saves 25% of the grain. Stover Feedmills grind any grain to any degree of fineness. 1/2 H. P. to 40 H. P. capacity.

Write for FREE Booklet

Learn how to make a proper balanced ration for your stock.

Stover Mfg. & Engine Co.

Also Makers of Stover Samsom Windmills, Feedmills, Comminators, Ensilage Cutters, Pump Jacks, Working Heads, Wood Saw Frames and Hardware Specialties.

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Prevent this by using ABORNO. Easily administered by hypodermic syringe. Kills abortion germs quickly without harming cow. Write for booklet with letters from users and full details of Money-Back Guarantee.

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Dairy Farming

FRESHENING TIME IMPORTANT.

THE time of the year that a cow freshens seems to have considerable to do with the profit she returns. An analysis of the figures obtained from many cow-testing associations by the United States Department of Agriculture shows that in most sections the cows that freshen in the fall and early winter produce the most milk and butter-fat and bring in the greatest income over cost of feed.

STEADY INTEREST IN BETTER SIRES.

THERE were exactly 5,900 persons enrolled in the "Better Sires—Better Stock" campaign in this country at the close of the calendar year 1921, and records of the United States Department of Agriculture show a continued interest in the work which has extended to all states and several island possessions. During the year the number of live stock owned by the persons enrolled increased from about 400,000 to 750,000. The figures include both male and female stock. All of the males are pure-bred, and the females, which may be of varied breeding, are bred in all cases to pure-bred sires.

It is noteworthy that fifty-six per cent of all female stock listed in the better sires campaign are pure-bred. This figure is one per cent higher than a year ago. The effect of the use of pure-bred sires in reducing the number of scrub animals on farms is shown by the small proportion of scrubs in herds and flocks headed by pure-bred males. The figure at the end of the calendar year 1920 was 2.1 per cent and for 1921, 1.9 per cent scrubs in such herds.

A POUND A DAY.

THE last report of the Jackson County Cow-testing Association shows that the 225 cows belonging to the members of that organization produced during the month of December an average per cow of 29.1 pounds of fat. Vernon Clough owns the cow giving the largest total of butter-fat for the month, the amount being 65.9 pounds. Twenty-seven cows gave more than forty pounds of fat for the above period. Milk has been selling in this area for \$2.25 per hundred pounds and sweet cream has brought from fifty-two to fifty-five cents.

FEEDING MORE CAREFULLY.

THE members of the Antrim County Cow-testing Association are beginning to feed their cows more efficient rations and this is showing up favorably from month to month in the average production per herd. During the month of December one cow owned by C. W. Fox, produced 55.2 pounds of butter-fat while twelve of the 180 cows owned by the members produced an average of over forty pounds of butter-fat. E. W. Fox is doing the testing work for this organization. So far as can be ascertained everyone is pleased with the results and are thoroughly converted to the utility of these associations.

SEES EFFECT OF ALFALFA CAMPAIGN.

OVER in northern Van Buren county Mr. Thomas, tester in the cow-testing association of that region, declares that an awakened interest in better feeding of the cows is manifest among the members of the organiza-

tion he serves. This, he holds, is due partly to the alfalfa campaign put on in that county in December. The constant redirection of the attention of the members to the economies resulting from the use of the best balanced rations as suggested by the tester when he goes from farm to farm, has brought the dairy business of these men on to a more substantial basis. There are 135 cows in the association of which twenty-two produced more than forty pounds of butter-fat during the past month. L. H. Weber & Son are the owners of the best producing cow, this animal giving 77.1 pounds of butter-fat during the last month of 1921. There is keener interest in the state and federal tuberculosis work.

ALFALFA CAMPAIGN IN BENZIE COUNTY.

AS a result of a visit of Professor M. M. McCool, head of the soils department of the Michigan Agricultural College, to Frankfort, where he addressed 125 farmers on alfalfa growing, the opening gun in the alfalfa campaign in Benzie county has been fired. Professor McCool was ably assisted by Mr. T. A. Farrand, of the horticultural department, who spoke on alfalfa growing at a meeting held in Honor. The Benzie county alfalfa campaign will take the form of demonstration acres in each township planted with seed supplied by the crops department of M. A. C., fertilizer supplied by the soils department of M. A. C., pulverized limestone furnished by Wing & Evans Company, which will be hauled gratis by the Ann Arbor Railroad, and is to be put on farms owned by men who will agree to carry on a demonstration for five years or more. County Agent J. L. Kraker is completing arrangements for this work which will be put on in the spring, and in the meantime is conducting winter meetings in various parts of the county for the purpose of stimulating interest in growing alfalfa. One hundred and fifty letters have been sent to various farmers of the county from the farm bureau office asking their willingness to cooperate with a test acre, and from this number the farms on which the demonstrations are to be placed will be picked. Alfalfa will be a winner in Benzie county.

BUTTER MARKET STRONGER.

RECENTLY there was a showing of strength in the butter trade. Prices had been dropping to new low levels from day to day, but a reaction set in due to two fundamental conditions. One was that buyers had been operating on a reduced volume of stocks and when these small stocks were about depleted, the general demand created by their re-entering the market gave the trade a firm undertone. The other factor was the diminishing supplies from producing sections. The severe weather has cut down the output. As a result, the markets changed from an almost demoralized condition to a strong position within the space of a single week. A firmer tone has also been reported in Danish markets and imports from that country have been correspondingly light. How long the firmer situation will last is a matter of conjecture.



INCREASES MILK CONSUMPTION.

WHAT can be done through an aggressive campaign giving publicity to the value of milk for human consumption? This question is answered by the results of an extended publicity movement conducted in Canton, Ohio, a city of one hundred thousand persons. Following the work in the schools among the children, in commercial club contests, plays, four-minute talks at theatres, food budget lessons, newspaper advertising, etc., the amount of milk used by the people of the city was increased between ten and fifteen per cent.

A RACK FOR FEEDING SHEEP.

(Continued from page 116).

ter. This will enable one to feed twenty-four sheep in a twelve-foot rack.

Now set the two sides up parallel to each other, with the pointed sides of the 2x4's on the outside, and put on the low end boards exactly even with the bottom of the posts or 2x4's. These should be long enough to make the bottom of the rack twenty-four inches in the clear from side to side. This will require that the end boards be thirty-four inches long if they extend to the outside of the 2x4's. Now at one end nail on a 1x6-inch board across the top on a level with the top sideboards. Leave the other end open to go next to the alley or feed room.

Turn the rack over and let it stand on the pointed ends of the 2x4's. Select two good heavy 1x10-inch boards "D" and nail very firmly on the bottom so as to come even with the outside of the side and end boards. This will leave a space about six inches wide between the two boards along the center of the rack.

Again the rack is turned right side up. Select a strong eight-inch board and fit it carefully over this six-inch space and tightly between the two end boards. When this is done, you have a flat grain feeding trough on either side of this center board and also a tight rack bottom for the feeding of roughage.

Our next job is to construct wings. A wide bracket "X" is nailed to the top of each of the 2x4's so as to extend up and out at forty-five degrees to correspond with the angle at which the top of each post is cut. These brackets are shaped to come nearly to a point at the outer ends. On these brackets we nail any light lumber "F" which may be either matched or closely fitted to prevent chaff and dirt from working through on the shoulders of the sheep. Since these wings extend out over the sheep, they require no extra room so far as that occupied by the animals is concerned. These wings may be any width, but we find twenty inches is about right.

A Few Words of Caution.

Sheep are very notional and will not eat food well which has been soiled or fed in a dirty rack. We clean our rack twice every day. For this purpose, a common square pointed spade is the most satisfactory tool.

In placing these racks, put a piece of board across under the middle and one about two feet from each end to support the bottom. Keep the rack lifted up frequently to prevent the manure from collecting around the sides. Where the manure is hauled out frequently, this, of course, is unnecessary. But never allow the racks to stand in the manure after the sheep are turned out in the spring. They should be lifted up where they will dry out thoroughly.

This rack is the result of forty years of feeding experience and we believe that any attempt to improve it will result in failure, especially if undertaken by the novice.

Cheap feed is usually the most expensive in the end.



At Milking Time

That's when it Proves its Worth

DOESN'T it stand to reason that if a cow's milk-producing organs are out of order there is certain to be a reduced milk flow? Stands to reason, too, that there will be enough loss in just a few milkings to more than offset the time and slight expense of giving prompt medicinal assistance to a cow that is in any way "off-color."

This is where Kow-Kare comes in. In a great majority of the best dairies this cow medicine is used regularly, at intervals during the housed-in winter season. When the cow's producing organs are put to severe strain by the loss of pasturage and the use of heavy concentrated foods and roughage, Kow-Kare will avoid a break-down by keeping the digestive and genital organs in a healthy, normal condition. Regularly at milking time you get big premiums on every penny invested in Kow-Kare.

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COWS must be kept healthy if they are to show a profit. Most of the diseases common to cows can be successfully and easily treated at home by using Kow-Kare according to directions. Barrenness, Abortion, Retained Afterbirth, Scouring, Bunches, Milk Fever, Loss of Appetite, etc., are promptly cleared up by Kow-Kare because it acts directly on the organs where these diseases originate. The use of Kow-Kare for two weeks before and after calving works wonders in carrying the cow over a time when her powers of disease-resistance are greatly lowered.

A package of Kow-Kare, plus our valuable free book, "The Home Cow Doctor," will put more profit in the milk can and set your mind at ease. It's the cheapest form of health insurance.

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Trend of the Feed Markets

By Sanders Sosland

MILD weather for winter is working to the disadvantage of the feed market, yet affording a distinct saving to buyers of feedstuffs. Bullish price tendencies in the market for the high protein feeds, bran, shorts, the coarse grains and other products have been checked largely on this account. Some declines have occurred within the past month; the market as a whole having been unable to sustain the upturns previously recorded in the absence of buying support. Although not general, there has been a quite remarkable display of "shopping for the most, the best and the cheapest," an expression which not alone housewives but consumers of feedstuffs as well are correctly using more and more.

Bran price changes for the next sixty days or more are dependent to a great extent upon the fluctuations in the cash and future wheat market. Ordinarily it is ridiculous to seek light on the future of the bran trade from the movements of wheat values. The situation today, however, is different. Buyers of flour are watching the wheat market closely; on the upturns an increasing demand for flour develops; on the declines in wheat, sales of flour

middlings and red dog, may be safely purchased now, although there is a possibility, not great, however, that downturns may be recorded before strength becomes apparent. At any rate, shorts will begin to move up more rapidly than bran. Cheap corn is temporarily checking the demand for shorts. Flour middlings are quoted around \$26 a ton on the Minneapolis market, \$22 in Kansas City and about \$25 in St. Louis, with Chicago up to \$27 a ton.

Cottonseed cake and meal lack a domestic outlet, and foreign buyers have recently begun to show more conservatism in their buying policy. The production by crushing plants also is increasing, yet the output in the aggregate is still extremely light, the primary bullish factor surrounding the market. Crushers in Oklahoma are quoting cake and meal of forty-three per cent protein content around \$37 to \$37.50 a ton, and around \$37.50 to \$38 in Arkansas. Lower prices, it seems, are ahead for the high protein feed, but increased supplies are first necessary. Buyers are refusing to take hold, owing to the wide disparity between cake and meal and other feeds, including corn. The range sections of the



fall off and difficulty is experienced at the same time in obtaining shipping directions on old orders for the breadstuffs product. Naturally, the production of flour is thus swayed, and the larger the output of flour, of course, the greater the supply of bran and shorts available for the consuming trade. Thus, if wheat advances in price, it is reasonable to expect easier prices for bran. This is not the only consideration in the future trend of the feed, however. The weather is somewhat of a disturbing influence, with many interior mills, usually able to sell their entire output of bran in their own community now being forced to turn to markets for an outlet. Recent declines in some dairy products also have not been favorable to enlarged consumption of bran.

Bran can be bought out of the southwest on the basis of about \$20 a ton in Kansas City, with the soft winter wheat territory quoting on the St. Louis market around \$23 to \$24 a ton and up to \$25 in Chicago. Northwestern mills are asking about \$21 a ton for bran, basis Minneapolis. The market as a whole shows a setback of about \$1.00 to \$1.50 a ton from the high point reached in December. For deferred shipment, bran can be bought at a discount of fully a dollar a ton under the spot market.

Not in many months have shorts sold at so nearly a parity with bran, being hardly more than a dollar a ton premium at many markets. How long this condition will prevail, of course, is problematical, but it is safe to forecast that such a condition will not long continue. The usual spread between bran and gray shorts or flour middlings is fully \$4.00 to \$5.00 a ton, and during some seasons as much as \$10. For example, less than ninety days ago, at the time bran was selling down to \$10 a ton on some markets, gray shorts were bringing more than \$20 at the same terminal and at other points commanding a premium of \$12 a ton. The season of large consumption of shorts will soon be approaching, coming about the time of the spring farrowing period for pigs, about early in March and continuing until the end early part of the summer. Brown and gray shorts, as well as the fancy white

west and north, usually heavy buyers at this time, are now holding back.

Small production also is behind the strength of linseed cake and meal. Europeans are virtually out of the market, manifesting an almost total lack of interest in offerings. Crushers have reduced their activities, thus keeping burdensome offerings from the market. The flaxseed byproduct is holding around \$43 a ton, basis Minneapolis, and around \$47 a ton at Buffalo.

Corn and oats have fallen back. European demand for corn has fallen off, and domestic channels presumably have an abundance of corn remaining from the crop, even in the sections where heavy purchases are usually made about this time of the year. The farmers are not large sellers of either grain, feeding on a comparatively heavy scale, but even the moderate supplies that are flowing into distributing channels are more than the trade can absorb. Country prices for corn average between twenty-eight and thirty-three cents a bushel over the central states. Buyers of feedstuffs who are concerned over possible bullish tendencies in markets as a result of prospective upturns in corn and oats need be little alarmed, for such advances are not now in sight.

The hay situation is improved, the result of the reduction in freight rates, the passing of the war tax on freight bills and other changes effected recently to place forage more nearly on a parity with competitive feeds. But the improvement in the market can hardly be considered as favorable from the producer's viewpoint. The advantage is being shared largely by the consuming trade. Larger sales of alfalfa hay are being made in the west to dairymen in Michigan and surrounding states, and that territory is buying more prairie for feeding beef cattle. On the Kansas City market, the largest handling point for alfalfa, sales of the best grades are being made up to \$22 a ton, although \$17 to \$18 covers most of the transactions. Prairie hay is quoted up to \$11 a ton. A larger movement of hay is expected from the west, the reduced freight charges at least affording producers an opportunity to work off some of their large surplus stocks into consumptive channels.

Agricultural Conference

(Continued from page 110).

own selection of grains as to origin and grade.

Speaking for the packers Mr. Thomas Wilson explained that the packers had continued to accept all supplies of live stock, although they had lost great amounts of money through their operations. The packing industry is perhaps the greatest of all and packers would surely do their best to work with the producer of live stock and that the time had arrived when associations of producers, under proper supervision, should systematize the orderly marketing of their products to prevent gluts, waste and loss. He declared the recent Capper-Volstead act authorizing associations to regulate shipments of farm products to be sound in principle. Also that the country at large should appreciate the great work that is being done by the Federal Department of Agriculture.

Discussing the effect of the agricultural depression on the fertilizer industry, Charles H. MacDowell, president of the National Fertilizer Association, said that the lowering cost of farm products was the first problem to be solved in getting agriculture stabilized and on a profitable basis. With an exportable surplus of 150,000 to 200,000 tons of sulphate ammonia, with natural stores of phosphate rock the largest in the world and with potash easily available from South America and Europe we need fear no shortage. Prices of fertilizer at producing points are at pre-war levels but freight rates must come down. The industry is asking a horizontal reduction of twenty-five per cent on freights. He reported the credit situation in the east and mid-west as not serious but in the south the situation is serious.

The results of the conference may be summed up in the resolutions which were reported after long hours of labor in committee and sub-committee room. It is not possible to publish them in full but in a nutshell they were:

Committee on agriculture and price relations declared that no revival of business is possible until the farmer's dollar is restored to its normal purchasing power. The action of the president was commended for calling the conference. The acts of the farm bloc were heartily commended; approved the program of the conference for the limitation of armaments; urged the administration to aid in the industrial rehabilitation of Europe; that the United States Department of Agriculture take measures to furnish reports of supplies and conditions of foreign farm products; commended efforts of the department of justice through publicity and otherwise to reduce retail prices and urged more vigorous action. The government was urged to accept the Ford Muscle Shoals offer and the Lakes to Atlantic waterway was also favored.

Committee on foreign competition and demand favored immediate legislation to provide credits to finance exports of surplus farm products; recommending extension of preferential freight rates to other farm products for export such as now exist for grain; opposing the tariff on potash for fertilizer; recommending to congress the creation of a permanent tariff adjustment board; recommending adequate support for the International Institute of Agriculture for the collection of facts relative to foreign agriculture.

Committee on crop and market statistics recommended that an agricultural census be taken every five years; that the county be adopted as the geographical unit for estimates of production; that trained agricultural representatives be located in foreign

countries to gather farm statistics of production and supply.

Committee on agricultural research and education recommended liberal support of existing institutions for research, education and extension, and that their facilities should be directed toward practical and economic problems.

Committee on farm population and farm home declared safe-guarding the health of the people of the open country to be the first consideration; advocated appointment of farm women as well as farm men to official positions in farm organizations; commending the President and congress for enacting the maternity law; endorsed home economics amendment to the federal vocational education law; commended club work for boys and girls.

ANNUAL MEETING OF MICHIGAN SWINE BREEDERS' ASSOCIATION.

THE seventh annual meeting of the Michigan Swine Breeders' Association was a complete success. It was pronounced by many of the swine men present "the best ever." The largest crowd ever assembled by the association came to hear three of the foremost swine men of the nation, and they went away more than satisfied.

Mr. E. C. Stone's address dealt optimistically with "Placing Pure-bred Swine on Every Farm." Mr. Stone is a whirlwind when it comes to injecting enthusiasm into swine breeders. He is president of the National Organization of Swine Record Associations, secretary of the American Hampshire Association, and a very active member of the committee that handles the affairs of the National Swine Growers' Association. The swine men of Michigan who were privileged to hear him were fortunate, and as a result will carry away with them a greater confidence in the swine industry of the future.

The efficient secretary of the American Poland-China Record Association, Mr. W. M. McFadden, gave a very interesting and instructive talk on "Breed Ideals." He urged the breeders to hold firmly to high ideals and not let them slump along with the prices. He emphasized the importance of honor, and fair dealing on the part of the breeders themselves if their breeds are to gain and maintain the good will and confidence of the swine growing public.

Mr. W. J. Carmichael, secretary of the National Swine Growers' Association, exhibited a fund of good business sense in his talk on "Types, Present and Future." He cautioned breeders about going to extremes in type and recommended the type that naturally develops the most desirable butcher form at 200 to 250 pounds, the popular butcher weight.

Further discussions relating to "Pig Clubs," by John Sims, and the "Butchers' Model," by a representative of Swift & Company were well received, and greatly appreciated by the swine growers.

The election of officers resulted in the selection of Newton Barnhart, of St. Johns, for president, and F. E. Haynes, of Osseo, for secretary-treasurer.

RED POLLED BREEDERS ENTHUSIASTIC.

THE annual meeting was called to order at the M. A. C. by N. C. Herbison, president. A talk was given by R. L. Westbrook on "More Steers and Fewer Common Bulls." Following this there was a lively discussion by the members present. The secretary's report was read and accepted. This report showing that there are over one hundred breeders of Red-Polled cattle in the state.

The following are the newly elected officers: President, N. C. Herbison, Birmingham; vice-president, R. L. Finch, Saline; secretary-treasurer, Mark R. Westbrook, Ionia; directors, F. W. Pierce, Eaton Rapids; Frank Kebler, Grand Ledge; J. A. Battenfield, Fife Lake.

It was the best meeting that the association has held for more than five years and all the members present seemed to be very enthusiastic and plan on doing big things in the future.



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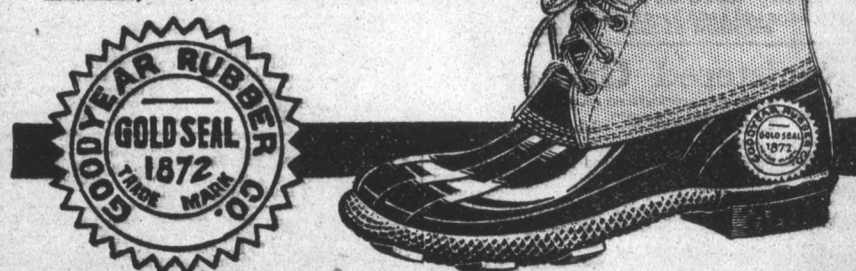
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The reward of pure breeding; the accomplishment of quality. Success has again contributed more laurels to the already remarkable record of

Imp. Edgar of Dalmeny

The Sire Supreme

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

Write us today.

WILDWOOD FARMS

ORION, MICHIGAN

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

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.

FOR SALE Pure Breed Aberdeen Angus Cattle. Cows, Bulls and 2 and 3 year old Heifers. ANDREW EITEL, Vermontville, Mich.

Registered Guereseys

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

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

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

Five Reg. Guernsey Bulls: 1 to 3 years old, good individuals at very low prices. Herd tuberculin tested, free from abortion. Prices and pedigrees upon request. LaPlaisance Farm, B. S. Knapp, Monroe, Mich.

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

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

For Quick Sale

Grandsons King of the Pontiacs

Out of 28 to 32 lb. Dams. Federal Tested

No. 1 - Calf, out of 28.9 Junior four year old. Record 585 lb. milk, 119 lb. of butter. Born March 29, 1921. PRICE \$200.00.

No. 2 - Calf, dam's record 760 lbs. milk, 28 lbs. butter. Ready for light service. Born March 14, 1921. PRICE \$200.00.

No. 3 - Calf, out of Granddaughter Belle Korndyke, who was a dam of Pontiac Korndyke. Record 27.7 lbs. butter, 640 lbs. of milk. No better bred animal in Michigan. Born February 22, 1921. PRICE \$200.

No. 4 - Calf, dam at 6 years old made record of 625 lbs. milk and 31.96 butter. Granddaughter DeKol 2nd, Butter Boy 3rd. This calf worth \$1000. If bought at once \$400.00.

No. 5 - Calf, out of a two year old daughter of a twice 30 lb. cow. PRICE \$75.00.

Also several male calves out of untested dams, four, five and seven months old. PRICE FOR QUICK SALE \$50.00.

Address all communications to J. B. JONES, Care of Crowley, Milner & Co., Detroit, Mich.

HERE IS A GOOD ONE

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

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 18,996 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 bull calves. Quality of the best, and at prices within reach of all. Write, GEO. D. CLARKE, Vassar, Mich.

FOR SALE 4 Holstein Bull Calves at Monroe Co. Farm, side Waldorf Inka Prince Red Book 328-157.

BROOKWATER DUROC JERSEYS ANNUAL BRED SOW SALE FEBRUARY 7, 1922

MICHIGAN'S PREMIER HERD of DUROC JERSEYS is at Brookwater Farm. This offering is of the usual high class standard. Bred to BROOKWATER DEMONSTRATOR, BROOKWATER DEMONSTRATOR 26th, PANAMA SPECIAL 55th, PANAMA SPECIAL 8th, and BIG BONE GIANT SENSATION. Everyone of these sows has been a prominent prize winner in State and National Shows. Brookwater Farm keeps more high class sows than any other breeding establishment in the country. As usual these sows and gilts will be sold to the highest bidder. It will be one of the best opportunities breeders and farmers of Michigan have to get the best at their own price. Hogs are the most profitable live stock investment for Michigan farmers today. There is no better hog than the Duroc.

Sale will be held at Hertler's Feed Barn, 210 S. Ashley St., Ann Arbor, Michigan

Send for a Catalog

BROOKWATER FARM, Ann Arbor, Michigan
H. W. MUMFORD, Owner. J. B. ANDREWS, Manager.

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.

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 retractor in the herd. Henry S. Rohlf, R. 1, Akron, Mich.

Holstein-Friesian pure-bred bull calf, for light service. From sire whose 6 daughters have won 1st, 2nd, 3rd, 4th, 5th, 6th, 7th, 8th, 9th, 10th, 11th, 12th, 13th, 14th, 15th, 16th, 17th, 18th, 19th, 20th, 21st, 22nd, 23rd, 24th, 25th, 26th, 27th, 28th, 29th, 30th, 31st, 32nd, 33rd, 34th, 35th, 36th, 37th, 38th, 39th, 40th, 41st, 42nd, 43rd, 44th, 45th, 46th, 47th, 48th, 49th, 50th, 51st, 52nd, 53rd, 54th, 55th, 56th, 57th, 58th, 59th, 60th, 61st, 62nd, 63rd, 64th, 65th, 66th, 67th, 68th, 69th, 70th, 71st, 72nd, 73rd, 74th, 75th, 76th, 77th, 78th, 79th, 80th, 81st, 82nd, 83rd, 84th, 85th, 86th, 87th, 88th, 89th, 90th, 91st, 92nd, 93rd, 94th, 95th, 96th, 97th, 98th, 99th, 100th.

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

Wiscogin Farm offers Holstein-Friesian bulls ready for light service. From sire whose 6 nearest dams average 33.34 lbs. butter for 7 days. A. R. O. Dams from 18.33 to 21.51 lbs. Herd under state and Federal Supervision. Oscar Wallin, Unionville, Mich.

FOR SALE Registered Holstein Cow with bull calf sired by 40 lb. bull. Two heifers sired by and bred to 31 lb. bulls, due in March and April. W. C. HOWE ESTATE, Howell, 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.

Registered Holstein bull calves and registered Duroc sows attractively priced. Blue Bird Farm, Northville, Mich. Phone Northville 705F13.

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 EARLIRIPE 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 1885)
Phone 250 Saint Clair, Michigan

HEREFORDS For Sale. Bulls, cows and heifers. 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. VASARY, 509 Free Press Building, Detroit, Mich., Main 1267.

JERSEY CATTLE SALE

Will sell half interest in 20 head of Jerseys on well equipped Michigan farm to some one with knowledge of dairy farming. J. B. MAHER, 7535 Normal Ave., Chicago, Ill.

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

Lillie Farmstead Jerseys Bull calves from R. of M. cows. COLOM & LILLIE, Coopersville, 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.

For Sale Several registered Jersey Cattle. Belding Land & Improvement Co. Care of CHAS. WIGGINS, Belding, Mich.

Forced Sale, one Jersey Bull six Jersey Cows and grade cow all goes for \$3500. C. H. FRENCH, Marion, 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

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

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

Francisco Farm Shorthorns and BIG TYPE POLAND CHINAS

Now offering:—Three bulls ready for service. Mastodon, Olansman, Emancipator blood in gilts bred for spring farrow. See them. POPE BROS. CO., Mt. Pleasant, Mich.

The Maple's Shorthorns

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

J. V. Wise, Gobleville, Mich.

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

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

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

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

For Sale, Proven Sire, for particulars address, M. W. WILLARD & SONS, or John C. Buth, Grand Rapids, Mich. R. 2.

BERKSHIRES

Special prices for registered Berkshire breeding stock: 10 Mature Bred Sows \$75.00 10 Fall Yearlings Bred 50.00 10 Spring Gilts, Bred 30.00

Best type with size and quality. Satisfaction absolutely guaranteed. Write for information. C. C. COREY, 2427-30 First National Bank Building, Detroit, Michigan

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

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

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

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

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

Pure-Bred Duroc Jersey Hogs: we usually have good sows 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, Cd. 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.

MAKING OF A PORK CHOP.

(Continued from page 107).

some influence on the changes and the lack of consistent effort in market hog production, is the idea held by some persons, that the farmers are vitally interested in producing what is known as the packers' ideal. One of the desirable and important characteristics of the most profitable kind of market hog is a certain ruggedness that appears necessary to meet average farm conditions. There is a refinement and lack of rugged character about the hog that appears to be the "ideal" of the packer that does not always make that hog the most profitable kind to raise.

While topping the market is a very pleasant stunt to pull off, it is by no means necessary, to secure the greatest profit in pork production. Until the packer is willing to pay more of a premium than he generally does for his ideal, the average farmer need not be greatly concerned as to just what the ideal may be.

In most of the countries where an important and pronounced achievement has been brought about in the way of the development of a certain breed of animals until they are not equaled anywhere else in the world, there is a very general recognition of the fact and a considerable concentration of effort in that direction. To recognize, talk about and advertise that fact, adds much to the profit and satisfaction in the breeding of that particular kind of live stock.

What the Percheron horse is to France, the Jersey cow to the Island of Jersey, and the Shropshire sheep is to England, the hog is to America. This fact is beginning to get a small measure of tardy and long overdue recognition. The more nearly it becomes one of the generally accepted facts of American live stock breeding and development, the better it will be for the swine business and the greater are the things that can be accomplished in the way of future improvement and expansion.

If all those engaged in the breeding of pure-bred swine could pointedly and understandingly work along these constructive and definite lines, as they have heretofore, more or less unconsciously done, the effect would be tremendous. The fact is beyond dispute that the farmer pork producer has determined the kind of hog we have. In spite of the fads and fancies of the breeders of pure-breds with which they have attempted to modify the hogs of this country from time to time, the real influence of such things has always been somewhat temporary and we have always come back to the kind the farmer has found to be most to his liking.

No systematic and comprehensive dissemination of instruction and information concerning the fundamental accomplishments of swine production in America has ever been undertaken by the agricultural colleges or farm press of this country. Some day such a recognition may come, and if it does, it will do a great deal to eliminate many of the changes, the experiments in crossing, and the lack of consistency, which have been the bane of really successful pork production in this country, up to this date.

When these facts concerning what has been done and what the swine business stands for and represents, are well understood, the person who cares for something beside the material things of this world, will realize that when a well-cooked, a juicy, luscious pork chop is laid on his table, it symbolizes not only something that is preeminently made in America, but also one of the greatest live stock accomplishments in this country.

(The above is the address of W. M. McFadden delivered before the annual meeting of the Michigan Improved Live Stock Breeders' and Feeders' Association at East Lansing.—Eds.)

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.

Fractured Jawbone.—I have a four-year-old horse that has two openings leading into an enlarged jawbone. I have applied disinfectant and washed off pus with soap and water. When I bought her in March, 1921, the bunch was not quite as large as now. She has worked well all summer and is now in good condition. L. J. H., Scottville, Mich.—You either have a case of fractured jaw or diseased tooth, most likely a speck of bone which is acting as an irritant and until it sloughs out or is removed the jaw will not be well. Use peroxide of hydrogen to clean off the pus, then pack opening with boric acid.

Partial Loss of Power.—I would like to know what to do for a cow that got in the feed box and ate too much ground corn and cob. She was in good health for several days, then started to show signs of weakness in her hind quarters. When down she is unable to get up, but if helped on foot she can stand, but cannot walk. She eats and drinks as if in perfect health. I gave her two doses of the following drench but it did not seem to help her: Epsom salts, 12 ounces; ginger, one ounce; gentian, one ounce; syrup, four ounces; two drams of ground nux vomica and a half ounce of saltpetre, and water to make two quarts. J. S., Algonac, Mich.—Immediately following the discovery of your cow having eaten far too much grain, you should have given her not less than one and a half pounds of epsom salts, plenty of tepid water, either to drink or as a drench—adding some common salt to the water; she should have been exercised and the posterior bowel flushed with tepid water. Give her one dram of fluid extract of nux vomica at a dose four times a day, and apply mustard and water to back two or three times a week. Her bowels must be kept open. Feed her some roots.

Chronic Indigestion.—I have a valuable Percheron mare eight years old. She was very thin when I purchased her two years ago, and shortly after getting her, she broke loose and got into a barrel of fine corn meal. I called a veterinarian as soon as I discovered her and he gave her what was necessary. I presumed she suffered no ill effects from the corn apparently and in four days I began to feed her corn again. The fifth day after working in the morning she apparently developed colic. I called the veterinarian again and after looking her over gave me small hope of saving her but gave me medicine to give every hour, which I did for the following three days and nights. She was nearly uncontrollable, rolling, kicking and throwing herself. She lived through it. Her bowel discharge was like water with lots of gas. Following this she has had the same attack of colic or whatever you may call it, in a much lighter form. At the beginning she had them about every three or four times a week, and at present after two years, about once every four or six weeks. These spells come on without any apparent cause. She lies down, gets up, and lies down. Sick spell lasts about one to four hours with a sour gas and very mushy bowel discharge. What shall I give her when she has these attacks, and is there anything I could give her to get her over having them? H. C. S., Hart, Mich.—Chronic indigestion may be produced in various ways, as by feeding an animal for a long time on large quantities of oats, etc., the stomach being overtaxed and finally failing, but in this case it was evidently caused by eating too much corn meal. Have her teeth examined, if visible mucus membranes are yellow, give one dram of calomel and one ounce of bicarbonate of soda daily for three days. Her bowels should be kept open, she should have daily exercise, her food and water supply should be of good quality. Mix one pound of ground nux vomica, two pounds of ginger, three pounds of bicarbonate of soda together and give her a tablespoonful at a dose in feed two or three times a day. In my practice I have obtained in some cases good results by giving dilute hydrochloric acid three times a day—the dose is from twenty drops to 100 drops well diluted; it can be given in drinking water.

40 HEAD 40

Bred Sows at A. A. Feldkamp's

Saturday, February 11, 1922

Large Type Poland Chinas

The Best the Breed Affords.

Cholera Immune by Double Treatment. Champion Herd at Mich. State Fair 1921. Sale takes place under cover, rain or shine, at farm 3 1-2 miles west, 1 1-2 miles north of Manchester, Mich.

Send for Catalog

Auctioneers: ED. BOWERS, South Whitly, Ind.
JOHN HOFFMAN, Hudson, Mich.

LARGE TYPE POLAND CHINA BRED SOW SALE

At Livery Barn, Parma, Mich.

Thur. Feb. 9, 12:30 P.M. Central Standard Time

31 Bred Gilts and Sows carrying the blood of The Clansman, Big Orange, A Wonder, Big Des Moines, Big Bone Model and other noted boars. These sows bred to B's Clansman 1921 Mich. Grand Champion and to M. and W's Orange 1st Jr. yearling at Calhoun County Fair. Also sows sired by these boars. Come and see the real big type hogs with size and quality. Catalog gives full particulars. Sale to be held rain or shine.

Adams & Hoffman, Auctioneers

N. F. BORNOR,

Parma, Mich.

14 Head Bred By W. E. Livingston, Parma, 10 head bred by Miller & Weaver, Ceresco

DUROC BRED SOW SALE

By the Hillsdale Co. Duroc Breeders Ass'n.

Wed. Feb. 15, 1922. 1:00 P. M.

At the Hillsdale Fair Grounds

The greatest chance of the season for Mich. breeders to obtain the best blood and individuals. 50 head of selected from the best herds of the county. Large type combined with quality. We won 1st and 2nd in Boys and Girls Pig Club at Mich. State Fair 1921. Many show prospects will be found at this sale. Our blood lines are very strong Orion Cherry King, Joe Orion 2nd and Colonel breeding. Write for catalogs. Send mail bids to auctioneers in care of

H. B. KELLY, Sec., Hillsdale, Mich.

Andy Adams, J. A. Fisher, J. I. Post, Auctioneers

BIG TYPE POLAND CHINAS

E. J. MATHEWSON, BURR OAK, MICH.

Will Sell 40 Head of Bred Sows

THURSDAY, FEB. 16, 1922

The big boned kind that raise big litters. Spring gilts weighing around 400 lbs. Double Immune. Write for Catalog.

Auctioneers: Cols. Bowers and Waffle

Trains will be met at Sturgis on N. Y. C. and Nattawa on G. R. & I.

DON'T CUT OUT

A Shoe Boil, Capped Hock or Bursitis

FOR

ABSORBINE

will reduce them and leave no blemishes. Stops lameness promptly. Does not blister or remove the hair, and horse can be worked. \$2.50 a bottle delivered. Book 6 R free.

ABSORBINE, JR., for mankind, the antiseptic Uniment for Boils, Bruises, Sores, Swellings, Varicose Veins, Allays Pain and Inflammation. Price \$1.25 a bottle at drugists or delivered. Will tell you more if you write.

W. F. YOUNG, INC., 268 Temple St., Springfield, Mass.

HOGS

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.

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

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

DUROC JERSEYS

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

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.

The One you want. Reg. Duroc Jersey boar, of Brookwater stock, age 1 1/2 yrs. wt. 600 lbs. large boned type. Sires large litters. The price is right. OLE MARTINSON, Northport, Mich.

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

DUROC-JERSEYS A few good Brood sows, E. D. HEYDENBERK, Wayland, Mich.

BIG TYPE CHESTER WHITES

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

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

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

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

O. I. C. & 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, Mariette, 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. Gilts, Phone. OTTO E. 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, Danville, Mich.

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

LARGE TYPE P. C.

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

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

LEONARD'S Big Type P. C. Herd headed by Leonard's Liberator 458,235, the tallest, longest and heaviest boned pig for his age in Mich. Call or write, stock in season. Fall pigs at Bargain Prices. E. R. LEONARD, St. Louis, Mich.

Pig Type P. C. some very choice boars double immune, out 100 lb. size and mammoth sows from Iowa's greatest herds. E. J. Mathewson, Burr Oak, Mich.

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

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

Large Type Poland Chinas

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

L. T. P. C.

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

BIG Type Poland-China and Holsteins. Two fall yearling gilts, sired by Hovers Giant and bred to Clansman Buster for spring farrow at \$80 each. Our spring gilts are all sold. We are offering Reg. Holstein Bulls, ready for service at \$80, sired by 29 lb. bull. DORUS HOVER, Akron, 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.

Poland China Ready for use, good pasterns, back and bone; a show boar, wt. 175, \$30, registered. FERNWOOD FARM, Ewart, Mich.

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

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

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

O. I. C. HOGS

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

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

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

SHEEP

A Real Bargain at Kope Kon Farms

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

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

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

Straight Brook Farm offers real bargains in bred ewes and lambs, in lamb by prize winning rams. A. M. WELCH & SONS, J. B. Welch, Manager, R. No. 1, Ionia, Mich.

HORSES

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

For Sale Percheron Stallion 4 years old, steel gray, registered No. 149029. THOMAS MURPHY Jr., Gifford, Mich.

LATEST MARKET REPORTS

GRAIN QUOTATIONS

Tuesday, January 31.

Wheat.

Detroit.—Cash No. 2 red \$1.27; No. 2 mixed and No. 2 white \$1.24; May 1.32.

Chicago.—No. 2 red \$1.26; No. 2 hard \$1.17½@1.18½.

Toledo.—Cash \$1.27; May \$1.32.

Corn

Detroit.—Old Cash No. 2 yellow at 57c; No. 3 yellow 56c; new yellow Cash No. 3, 53; No. 4, 51½c.

Chicago.—No. 2 mixed 49½@49¾c; No. 2 yellow 49½@50c.

Oats.

Detroit.—Cash No. 2 white 40c; No. 3 white 37½c; No. 4, 32½@35½c.

Chicago.—No. 2 white 36½@38c; No. 3 white 33½@34½c.

Beans.

Detroit.—Immediate and prompt shipment \$4.90 per cwt.

Chicago.—Choice, to fancy hand-picked Michigan beans \$4.70@5; red kidney beans \$5.50@7.

New York.—The market is steady. Choice pea at \$5.35; do medium \$5@5.25; red kidney \$6.25@6.50.

Rye.

Detroit.—Cash No. 3, 87c.

Chicago.—Nominal.

Toledo.—89c.

Seeds.

Detroit.—Prime red clover, cash at \$14; alsike \$12; timothy \$3.35.

Toledo.—Prime red clover, cash at \$13.80; alsike \$11.95; timothy \$3.30.

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@12.50 per ton in carlots.

Feeds.

Detroit.—Bran \$30; standard middlings at \$28; fine middlings at \$30; cracked corn \$27.50; coarse cornmeal \$25.50; chop \$22.50 per ton in 100-lb sacks.

WHEAT

With the prospect of only a moderate carryover at the end of the crop year in all the surplus countries, the prospects of the new winter wheat crop in the United States becomes especially important. The drought in the southwest is still unbroken and its most severe in some of the heaviest yielding counties of Kansas. With the approach of spring, weather conditions will be a paramount influence in determining the trend of prices. A big dent was made in the visible supply and bonded stock of wheat in the United States and Canada during the week ending January 21. The total decrease was 7,440,000 bushels. A few more weeks of the same sort would reduce greatly the pressure of these stocks upon the market. The average decrease in the United States visible supply from February 1 to July 1 has been about 44,000,000 bushels. This is more than the total visible supply at the present time.

CORN

Arrivals of corn at primary markets during the last two weeks totaled over 29,000,000 bushels and set a new record in trade annals. Purchases for export have been less prominent, due in part to difficulty in obtaining ocean freight room, but American corn in Europe is still quoted considerably cheaper than Argentine while the new Argentine crop now near the roasting ear stage is imperiled by dry weather and locusts. A fairly heavy movement during most of February is probable but producers have more confidence and in another month it may be necessary for prices to advance in order to attract a new group of sellers if a movement broad enough to supply the demand for corn is maintained. In spite of heavy arrivals the visible supply has not increased materially.

OATS

Domestic demand for oats is improving and export bids have been in the market although only a small quantity has been sold abroad. The oats visible supply which is the chief depressor at the present time, usually decreases at a rapid rate during the last winter and early spring months when shipments to eastern points are running large.

Such a decrease is expected to begin in another month and prices should show some response.

SEEDS

Red clover seed prices advanced into new high ground for the season last week as a result of increased demand. Dealers are preparing for the spring trade and holdings in the producing sections are small. The light crop in Europe is reflected in the small imports which amount to only 2,799,000 pounds of red clover from July 1 up to January 15. Imports of alsike clover in the same period were 3,914,000 pounds and of alfalfa 3,177,000 pounds.

FEEDS

Both corn feeds and wheat feeds declined further last week so that they are now \$3@6 per ton cheaper than at the high point of the season in late December. Apparently large quantities were held by jobbers and these have been pushed on the market. The high protein feeds show more strength than other kinds but in this division also some reselling is noted. The break offers an opportunity to the buyers of wheat feeds, although prices for deferred shipment are \$1@1.50 lower than for immediate delivery. After supplies in second hands have been placed, a firmer market is probable.

HAY

Hay markets in the east have been dull with prices tending downward but demand in the west has increased slightly and markets in that section are fairly firm. High freight rates tend to restrict the intermarket movement and thus to localize market conditions. There appears to be a large supply of prairie hay still to come forward but alfalfa is relatively less abundant. In the drought-stricken area in the southwest, winter wheat is not furnishing pasture as it usually does and the hay requirements of that section have increased.

POULTRY AND EGGS

Egg dealers everywhere expect an enormous output of eggs during spring months and a further decline in prices.

At present it is still necessary to draw on cold storage holdings but within a few weeks the supply of fresh eggs will more than satisfy consumptive demand so that it will be necessary to put eggs into storage. When that time arrives, prices will be governed largely by the views of the trade as to prospective prices for storage eggs during the following fall and winter. Meanwhile, the market fluctuates largely with the character of the weather which has a good deal to do with the rate at which eggs will come forward from the producing sections. A cold snap early last week advanced the market but it slumped again toward the close as the weather moderated.

BUTTER

Both the supply and the demand factors worked in the direction of high prices for butter during the past week. Cold weather has curtailed production although receipts at the principal markets have not yet shown the effects of the decrease in the make at country points. Pressure from foreign butter also has been less severe although a little New Zealand butter arrived in the east. Consumptive demand has been stimulated by lower prices. That butter has been disappearing into distributive channels is shown by the high rate of withdrawals from cold storage. Prices are about four cents higher than the low point two weeks ago but the market is unsettled and nervous. Lower values are undoubtedly ahead but the spring increase in the make is still some weeks away.

Prices for 92-score fresh butter were as follows: Chicago 36½c; New York 38½c. Fresh creamery in tubs sells for 32½@33½c in Detroit.

POTATOES

The leading potato producing states have shipped about 110,000 cars thus far. This is only about 31,000 cars less than for the entire season a year ago. The movement at the present time is running about 3,000 cars per week. Prices remain fairly steady and northern sacked round whites are quoted in most wholesale markets at \$2.25 @2.40 per 100 pounds although the

Chicago carlot market is quoted at \$1.80@1.95. Northern shipping point prices are \$1.65@1.85 f. o. b. Prices a year ago in distributing markets ranged from \$1.15@1.65.

BEANS

The bean market advanced sharply last week with \$5 per hundred pounds the ruling quotation at the close for choice hand-picked stock f. o. b. Michigan shipping points while farmers are being offered \$4.50 for beans in the dirt. Red kidney beans after declining to about \$5.50 advanced with other kinds to \$6. The recent strength has been due to some foreign buying, to the expected increase in demand from wholesale grocers after inventories were taken and to refusal of farmers to part with the remaining stock. It is estimated by bean trade specialists that only about 20 per cent of the crop is left in Michigan, including both farm and elevator stocks. This is an extremely small supply with the new crop eight months away.

WOOL

Although wool prices have advanced all over the world, the high duty in the emergency tariff is given credit for a good deal of the advance in the United States. The future courses of values depends to no small extent, therefore, upon what is done in the permanent tariff. At the opening of its offering of fall goods by the American Woolen Company, the leading manufacturer, prices quoted were three to five per cent lower than a year ago. Higher prices had been expected because of the advance in the wool market as no recent reduction has been made in the wage scale. The government offered about 7,000,000 pounds of its holdings on February 2.

The Boston market is quoted as follows: Michigan and New York fleeces, delaine unwashed 41@42c; fine unwashed 31@33c; half-blood unwashed 38@39c; three-eighths blood unwashed 35@36½c; quarter-blood unwashed 34@35c.

DETROIT CITY MARKET

The market is well supplied with produce, with trading rather brisk. Apples, celery, carrots, poultry and parsnips are in greatest demand. Eggs are quite plentiful and prices low for this time of the year. Turnips are slow movers among the root crops. Apples sell from \$1.50@3 per bushel, depending on quality. Beets \$1@1.50 bu; cabbage \$1.75@2 bu; carrots \$1.50 @2.25 bu; eggs 45@55c; potatoes at \$1.25@1.30 bu; turnips 75c@1 bu.

GRAND RAPIDS

Trading was moderate, with prices to growers as follows: Potatoes \$1@1.20 bu; cabbage white 4½c lb; carrots \$1.25 bu; celery \$10@35c bunch; beets \$1.50 bu; turnips 75c bu; dry onions \$3.50@3.75 bu; parsnips \$1.50 bu; apples \$2.75@4 bu.

Dairy butter, No. 1 26@28c lb; No. 2 22@24c; eggs fresh 35@36c dozen.

A NEW FARM ACCOUNT BOOK.

A NEW edition of the farm account book, published by the Michigan Agricultural College has just come from the press. This book is being sold to farmers at cost, which is fifty cents. Last year over five thousand books were distributed throughout the state. Expressions of appreciation from farmers have come from many counties. Orders for the books should be sent to the Department of Farm Management, Agricultural College, East Lansing, Michigan.

LIVE STOCK SALES.

Shorthorns.—May 10, Greenville Fair Grounds, Central Michigan Shorthorn Breeders' Association.

Duroc-Jerseys.—Feb. 7, Brookwater Farm, Ann Arbor, Mich. Sale held at Herther's Feed Barn, 210 South Ashley St., Ann Arbor.

Poland-China.—Feb. 14, A. A. Feldkamp, Manchester, Mich.

Poland-China.—Feb. 9, N. F. Bornor, Parma, Mich. Sale at livery barn, Parma.

Poland-China.—Feb. 16, E. J. Mathewson, Bun Oak, Mich.

Duroc-Jersey.—Feb. 15, Hillsdale Co. Duroc Breeders' Ass'n, at Hillsdale Fair Grounds.

Duroc-Jersey.—Feb. 14, J. C. Barney, Coldwater, Mich.

Live Stock Market Service

Wednesday, February 1.

DETROIT

Cattle.

Receipts 638. Market is slow but steady.

Best heavy steers	6.00@6.75
Best handy wt bu steers	6.75@7.15
Mixed steers and heifers	5.50@6.50
Handy light butchers	5.25@5.75
Light butchers	4.50@5.00
Best cows	4.75@5.25
Butcher cows	3.50@4.25
Common cows	3.00@3.50
Canners	2.25@3.00
Best light weight bulls	4.50@5.25
Bologna bulls	4.00@4.75
Stock bulls	3.50@4.00
Feeders	5.00@6.00
Stockers	4.50@5.00
Milkers and springers	4.00@7.50

Veal Calves.

Receipts 654. Market steady.

Best	13.00@14.00
Others	6.00@12.00

Hogs.

Receipts 1,746. Market is 20@25c lower.

Mixed hogs	9.35
Pigs	9.50
Heavies	8.50
Roughs	6.75

Sheep and Lambs.

Receipts 1,954. Market steady.

Best lambs	13.50@13.75
Fair lambs	11.00@11.55
Light to common	7.50@8.75
Fair to good sheep	5.00@6.75
Culls and common	1.50@3.00

CHICAGO

Hogs.

Estimated receipts today are 25,000; holdover 14,636. Market fairly active, mostly 15@25c lower; some light weights off more. Bulk of sales \$8.75 @9; tops \$9.25; heavy 250 lbs up at \$8.75@8.90; medium 200 to 250 lbs at \$8.85@9; light 150 to 200 lbs \$8.95@

9.15; light lights 130 to 150 lbs \$9@9.25; heavy packing sows 250 lbs up \$7.75@8.25; packing sows 200 lbs up \$7.50@7.85; pigs 130 lbs down medium \$8.50@9.15.

Cattle.

Estimated receipts today are 8,000. Market strong to higher. Beef steers medium and heavy weight 1100 lbs up choice and prime \$9.15@10; do medium and good \$7@9.15; do common \$6 @7; light weight 1100 lbs down good and choice \$8@9.50; do common and medium \$5.75@8; butcher cattle heifers \$4.35@7.65; cows \$4@6.10; bulls bologna and beef \$3.75@5.75; canners and cutters cows and heifers \$2.75@4; do canner steers \$3.15@4.25; veal calves light and handyweight at \$8@12.50; feeder steers \$5.15@6.85; stocker steers \$4.50@6.65; stocker calves \$3.25@5.

Sheep and Lambs.

Estimated receipts today are 17,000. Market steady. Lambs 84 lbs down \$11.75@14; do culls and common at \$9.25@11.50; spring lambs at \$9.50@12.75; ewes medium \$5@7.55; ewes cull and common \$2.50@4.75; yearling wethers \$10.50@12.75.

BUFFALO

Cattle.

Receipts 5 cars; slow and generally steady; shipping steers \$7.25@8.25; butchers \$7.25@8; yearlings \$9@10; heifers \$5@7.50; cows \$2.25@5; fancy \$6; bulls \$3.50@5.25; fresh cows and springers \$45@120. Calves \$3@15.50.

Hogs.

Receipts 30 cars; market is strong. Heavy \$9.25@9.50; mixed \$9.25@9.50; yorkers \$9.75@10; light do and pigs \$10; roughs \$7@7.25; stags at \$3.50@4.50.

Sheep and Lambs.

Receipts five cars; market steady. Lambs \$6@14.25; yearlings \$11@12; wethers \$8@9; ewes at \$6@7; mixed sheep \$7.50@7.75.



Lower than 1916 Prices \$45 per unit

F. O. B. Oneida, N. Y.

The oldest, simplest and most efficient mechanical milker can now be had for lower prices than prevailed 6 years ago!

The Hinman was the first successful milker. Today there more Hinmans in use than any other. The

HINMAN MILKER

price today is on a par with or lower than farm products. It takes less milk, butter or cheese to buy a Hinman today than ever before.

The Hinman Standard at \$45 per unit or the Hinman Complete Electric Outfit (no installing) at \$150 is the biggest and best buy the farmer can make. Either outfit saves its cost the first year in labor and time!

Get the Hinman 1922 Catalog. It's free. Send for it today!

Agents Wanted
We have a money making offer for agents in open territory! Write today.

**Hinman Milk-
ing Machine
Co.,**
Sixth St.,
Oneida, N. Y.

Edwin Farmer, Elected President at a Meeting of the Members of the Citizens' Mutual Automobile Insurance Company, Held at Howell, Saturday, January 21.

Edwin Farmer, former member of the legislature, was reelected as president. Mr. Farmer has been, for many years, a leading farmer of the county and one of the directors of the Stockbridge State Bank. Hon. Wm. F. Nank, of Mt. Clemens, F. W. Comiskey and R. J. Robb were elected as directors.

The Company made a splendid showing for the year 1921. The Company settled 2,646 claims during the year and paid a total sum of \$323,273.36 and closed the year with bank deposits of \$80,083.07 and total assets of \$137,392.51. The Company wrote and renewed during the year 40,268 policies. The Company confines its business to the country districts and small cities and writes no insurance in the city of Detroit. The Company has finished its seventh season and it has been the policy of the Company to increase the surplus each year. The Company has never borrowed a dollar and has paid its claims promptly.

A number attended the meeting from Lapeer, Kalamazoo, Muskegon, Washtenaw County and various parts of the state and the prospects for the year 1922 seemed very bright.

TO HAVE FIELD MEN.

THE forty-first annual meeting of the Michigan Shorthorn Breeders' Association was held at the Michigan Agricultural College, January 12, 1922.

Mr. J. L. Tormey, American Shorthorn Breeders' Association, Chicago, and Dr. E. T. Hallman, Michigan Agricultural College, gave very interesting and instructive talks. Mr. Tormey explained in detail the plans whereby the American Shorthorn Breeders' Association would cooperate with state associations in the support of a field man. It was then decided that the Michigan Association should take steps toward this end and a committee of three, consisting of: P. P. Pope, Mt. Pleasant, Mich.; G. A. Prescott, Jr., Tawas City, Mich.; and W. E. J. Edwards, East Lansing, Mich., was appointed to work out plans whereby such a field man may be appointed and the work financed.

The officers elected for the ensuing year were: President, George A. Prescott, Jr., Tawas City; vice-president, S. H. Bangborn, Bad Axe; secretary-treasurer, W. E. J. Edwards, East Lansing; directors, M. E. Miller, of Greenville; H. B. Peters, Carland, and Elden McLachlan, Ewart.

In the evening about sixty breeders enjoyed a fine banquet at the Hotel Kerns, Lansing, when H. McPherson, state banking commissioner, Lansing; J. L. Tormey, Chicago, and W. S. Kellogg, Agricultural Editor of the State Journal, and others gave interesting talks.

AYRSHIRE BREEDERS FORM ORGANIZATION.

THE recent gathering of Ayrshire breeders at the M. A. C. was presided over by Mr. C. L. Burlingham, and was a success from the word go. Mr. Burlingham has something doing every minute. He brought out very conclusively the merits of the Red and White cow and gave the audience some very convincing figures showing the great possibilities for Miss Ayrshire in Michigan.

Another speaker was Mr. E. C. Stone of Peoria, Illinois, who has a very fine herd of Ayrshire cattle and if anyone was in doubt about Ayrshires being profitable, he certainly hit them pretty hard with some mighty good facts and figures from his own herd to prove his assertions.

Mr. Stone is a forceful speaker and a successful business farmer, Ayrshire cows and Hampshire swine are his choice, because they are economical producers, good reproducers and last, but not least, exceedingly healthy.

During the interval at this period the Michigan Ayrshire breeders held an informal session at which it was decided to form a state organization. Mr. Burlingham was again requested to take the chair, and after a brief congratulatory speech he opened the nominations for officers, the following being elected: W. T. Shuttleworth, of Ypsilanti, president; J. D. Ferguson, of Charlotte, vice-president; Edward C. Roberts, of Fennville, secretary. These officers were appointed a committee to draw up by-laws and a constitution to be placed before the members at a summer meeting to be held on the farm of Shuttleworth Brothers at Ypsilanti. This ended the business session.

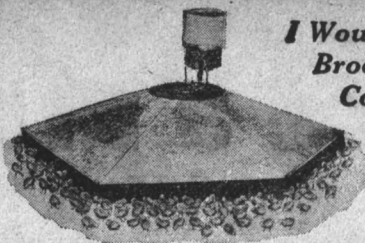
Mr. Burlingham had one more surprise for Ayrshire enthusiasts in the form of a moving picture film of Ayrshires, so all went over to the Agricultural Building and there witnessed on the screen old Garclaugh May Mischief who, at sixteen years of age, is typical of Ayrshire traits, still producing and reproducing in spite of the fact that she has over \$25,000 of milk to her credit in a single lactation period. Space will not permit of going into details of the different cows as they appeared, but suffice it to say that the review was sufficient to make every Ayrshire breeder's heart throb.

Mr. A. M. Berridge, the short-course director, and Mr. A. C. Baltzer, of the extension department, put these pictures on the screen.

The writer feels that all who contributed to the success of this first meeting will look back with pride some day in knowing that they were instrumental in getting these few young breeders together who are determined from now on to tell the world what they have.

Miss Ayrshire will do the rest. Just watch her!

Last fall the premium upon fat yearlings was one cause for feeders' preference for light steers. Steers with light weight are now selling at the top and fleshy feeders are attracting attention, buyers playing for a better spring and summer market.



I Wouldn't Part with My No-Cold Brooder Stove for \$50.00 if I Couldn't Get Another Like It

That's what Mrs. D. C. Forrer, Windfall, Indiana, said about the No-Cold after raising 95% of her chicks. We have hundreds of other enthused customers.

We want to tell you about this wonderful chick mother. It's the leading oil burning brooder stove of America. It eliminates all fussing and worrying. The wickless burner burns a whole season without cleaning; the automatic valve and damper holds the temperature as accurate as an incubator regulator. Plenty of heat for coldest weather. Don't buy a brooder stove until you see our large circular. Write for it today.

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Get rid of it easily, quickly and at less cost with

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

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You may be very fond of certain vegetables—crisp, sparkling radishes or sugar peas. Perhaps flowers—fragrant sweet peas, smiling pansies, or a beautiful rose. Or strawberry short-cake, berries and cream, and juicy grapes. Draw up your favorite chair by a cozy fire, plan your garden, and have our catalog on your lap for helpful advice. This messenger of spring brings you the promise of a wonderful garden.

Satisfaction Guaranteed

Like a true friend, the catalog makes no promise we cannot live up to. On page 2 we show why we can give you an absolute guarantee. Send for your copy today.

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ON RECEIPT OF \$2.00 we will send post paid any where in the United States 100 bond letter heads 8 1/2 x 11 and 100 envelopes to match, printed, limited to 3 or 4 lines. Blue or white paper. Write name and address plainly. Cash with order.

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The E. L. RICHMOND CO., Detroit.

POULTRY

OVIE'S BABY CHICKS

Makes Producers!
For years we have been building up utility heavy laying strains of exhibition quality so our customers will be assured of success. 12 leading breeds. 14c each and up. Safe arrival guaranteed by P. P. Prepaid. Catalogue free. Ovie's Poultry Farm & Hatchery, 32 State St., Marion, Indiana

100,000 Reliable Chicks for 1922

Of quality, real value for your money. Anconas, Brown Leghorns, American and English White Leghorns, all with the long deep-bodied loop combed kind that lay the large white eggs, from Hogenized selected flocks. Post paid to your door at reduced prices. Get our information and price list free before you buy elsewhere.

PAUL DE GROOT, Prop.
Reliable Poultry Farm & Hatchery,
Zeeland, Mich., R. R. No. 1

100,000 Chicks 12c & Up. Of pure bred finest eggs, producing flocks. Built directly from laying and exhibition contest winners hatching eggs. Ducklings. Catalog, 20 varieties. Early bookings avoids disappointment. Beckman Hatchery, 26 E. Lyon, Grand Rapids, Mich.

HA! HA! { 75,000 } CHICKS

Buy Hi-grade Profit Paying Bred-to-Lay Chicks. From tested egg strain. Best foundation stock ever produced. Hatching eggs, ducklings, 10 varieties. C.R. stamps apply. Laurence Poultry Farm, R. 7, Grand Rapids, Mich.

RURAL BABY CHICKS

S. C. White Leghorns and Anconas. Free Range Stock. Heavy layers of large white eggs. Satisfaction and safe arrival guaranteed. Catalogue sent free upon request. **RURAL POULTRY FARM & HATCHERY**, R. 1, Zeeland, Michigan

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

"Ringlet" Barred Rock cockerel, dark, finely marked, prepaid. Write Earl J. MURPHY, Britton, Mich.

STRONG BABY CHICKS

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

RANSOM POULTRY FARM, Geneva, Ohio.

Single Comb White Leghorn baby chicks. All eggs used by us for hatching produced on our own farm. Also a few choice cockerels. Write for circular.
RALPH S. TOTTEN, Pittsford, Mich.

STRICKS POULTRY FARM

Hudsonville, Mich. R. R. 4, Box M. S. C. English White Leghorns. Official records from 8 hens of 209 to 244. Chicks and Eggs. Write for catalogue.

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.

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

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FOR Sale choice Barred Rock cockerels and pullets. 14c each for \$3 and pullets \$2, two \$5. Good large birds. **George H. Campbell**, R. 5, Ypsilanti, Mich.

Top Quality Chicks Spanish, Minorcas, Rocks, Reds, Wyandottes, Orpingtons. **TYRONE POULTRY FARM**, Fenton, Mich.

WE BREED

Park's Strain Barred Rocks, Barron Strain White Leghorns. The two greatest strains of utility poultry in America. Baby chicks for early delivery should be ordered soon. Let us quote you our price on your requirements. Pullets, hens and males at reasonable prices. Bred in the north for northern conditions. **PINE BAY POULTRY FARM**, Holland, Mich.

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207 egg average. Cockerels \$5.00. Pens \$15.00 to \$25.00. Eggs \$2.00 per 15.
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Choicest breeding. Bird Bros. stock for foundation. Great size, splendid color, good markings. Healthy, thrifty birds for sale. **Wesley Hile**, Ionia, Mich.

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TURKEYS, Michigan's Best Giant Bronze. Splendid pure bred birds. Great in size, fine in color. **N. EVALYN RAMSDELL**, Ionia, Mich.

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Mammoth Bronze Turkeys. Copper bronze strain. Young combs for sale. Write for prices. **Mrs. PERRY STEBBINS**, Saranac, Mich.

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No. NX-3—Durable Ajax brand, medium weight rubber roofing. Rolls contain 108 sq. ft. including nails and cement, per roll.....\$1.00

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Mixes a batch every minute. Capacity 3½ cu. ft. and fast efficient concrete mixer furnished for hand or engine power. Specially designed for farm and small concrete work, each.....\$55.00

SPECIAL OFFER: We will furnish this concrete mixer and 1½ H.P. Monarch Gasoline engine at right for.....\$96.50



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No. NX-26 Monarch engine with Webster oscillating magneto. Develops full rated horse power. A wire starter and steady worker under all conditions.

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13-4 H.P. \$45.00
5 H.P. 75.00
7 H.P. 100.00
KEROSENE
3 H.P. \$67.00
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Splendidly equipped camps purchased by us

Great Lakes Naval Station
Located at North Chicago, Ill. We purchased Camp Perry and Camp Dewey, two of the government's best equipped training camps. Mark coupon for complete list.

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Our sale at this point, covers building material and general supplies of every description. Mark coupon for complete list now.

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Our sale of building material and supplies from this point is now progressing. Mail coupon for complete list without fail.

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Millions of feet of splendid lumber is now on sale at the government camps above. Sound, thoroughly seasoned material, with nails drawn—not clipped off. The lumber we are offering at \$10.00 per thousand feet is located at our two Southern operations. We are selling lumber in the North at proportionately low prices. Send us your lumber bills for money saving estimates. Here are some of the big savings.

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Large Room Heaters.....25.00

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BIG REDUCED PRICES!

\$1.40 PER REEL



SURPLUS ARMY STOCK
NEW WIRE—NEVER USED!

Barb wire made by America's leading wire mills—brand new stock, never in use.

Greatest Values Ever Offered

No. NX-5. We secured in this purchase from the Government a quantity of this barb wire at an extremely low price, so we are able to sell for immediate orders only at special sacrifice prices.

Write at once, stating quantities you can use and get our special quotations.

GALVANIZED WIRE

No. NX-7. Smooth, new, bright, galvanized wire, 6 or 9 gauge, continuous lengths. Bundles of about 100 lbs. Per 100 lbs.....\$3.35

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Best formula, won't peel, blister fade or rub off. White black and twenty-six non-fading colors. Put up in containers of one to fifty gallons.

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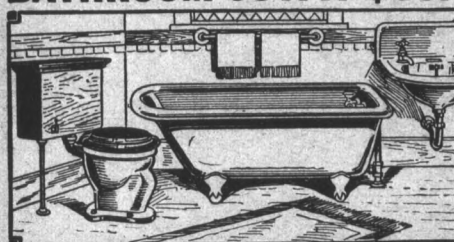
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Bath tub with fittings shown.....\$30.00
Bath tub without fittings shown.....\$22.50
Closet outfit complete.....\$22.50
Lavatory with fittings shown.....\$12.50

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BUILD IT YOURSELF—WE FURNISH— All brand NEW ready cut material, consisting of cedar posts, No. 1 Yellow Pine Sills, joist, studs, rafters, sub-floor, wall sheathing, roof boards, clear white pine or fir siding, flooring, trim, doors, mouldings, frames, with 1½ inch casings, all windows, glass, building paper, asphalt, slate surfaced roofing, hardware, such as locks, hinges, sash weights, cords, lifts, all nails, paint, stains, varnish, and building paper. New material throughout.

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FREE TRIAL!

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Size No.	Cap'y lbs. per hr.	Sale Price
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Watts No. 4-A Corn Sheller.
No. NX-11. This is the famous Watts No. 4-A Corn Sheller, fitted complete with cleaning system, cob stacker, grain elevator and automatic feeder as shown, a splendid outfit—capacity 75 to 125 bushels per hour with a 4 to 6 H. P. Engine. Sale price, complete.....\$85.00

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No. NX-31. Special barbed bottom galvanized hog fencing made of No. 11 top wire and No. 14 intermediate line and stay wires. Stays spaced 6 inches apart. Space between line wires from bottom upwards are: 3, 3½, 4, 4½, 5½ and 6 inches. 100 rods weigh 425 pounds.

26 inches high, rod.....27c
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Poultry Netting
Per \$3.00 Bale

Our big purchase of galvanized 2in. diamond mesh poultry netting from the Government, brings best poultry netting offered to you at big price reductions. Made of 19 gauge wire in two heights. Bales contain 150 lineal ft.

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Wonderful values in our big stocks. Random lengths complete with couplings, all sizes at big savings. 1 in. pipe, per foot.....5c
All other sizes priced proportionately low.

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