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DETROIT, MICH., SATURDAY, JULY 21, 1923

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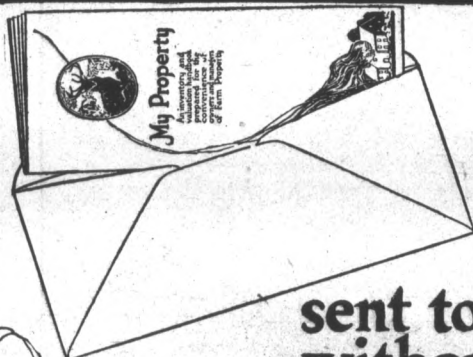
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AGRICULTURAL NEWS

WILL ADVERTISE BEANS.

IT is reported that the Michigan Bean Jobbers' Association is favorable to a national advertising campaign looking toward a larger consumption of beans. The members of the Michigan Association appear to be willing to cooperate in a national movement just as soon as sixty per cent of the elevators in the other large producing states agree to the plan. To finance such a campaign the proposal is to assess each elevator at the rate of nine-tenths of one per cent for each 100 pounds of beans received between August 15, 1923, and August 15, 1924.

MILK STRIKE CONTINUES.

THE milk strike which has been on in Allegan county for some time is not yet settled. On July 9 officers of the Milk Producers' Association conferred with representatives of the condensary, at which time a proposed contract was considered. General agreement was arrived at on all details excepting the clause requiring the condensary to purchase milk only of the Producers' Association. As a result the situation is still tense and the producers are planning to make a new drive to increase their membership.

POULTRY BUSINESS TO BE PUSHED IN TRAVERSE COUNTY.

EIGHT poultry demonstration farms have been established in Grand Traverse county by Agricultural Agent C. E. Atwater. This work will be under the general supervision of M. A. C. poultry experts.

Each of the eight farmers on whose farms the demonstrations will be held is raising a certain breed of poultry. Careful records will be kept and the best methods of caring for the flocks will be used. Through the county organizations the information gathered by these demonstrations will be furnished to the neighbors. In all probability additional demonstration farms will be established. There will probably be two hundred or more such farms established throughout Michigan.

EXPECT ACTION ON FREIGHT RATES IN MICHIGAN.

A CHANGE in the rates for farm products and also in the zoning system of charging for freight in this state is expected by members of the Michigan Public Utilities Commission. This matter was presented by the Michigan Traffic League and various farm organizations to the Interstate Commerce Commission nearly a year ago. It is expected that an order from the Interstate body will be forthcoming at an early date.

SUGAR BEET MEN FEAR COMPETITION.

HEARINGS are on in Toledo this week before representatives of the Interstate Commerce Commission on petition of the cane refinery at Blissfield, Michigan, for increased freight rates on sugar beets in Michigan and Ohio. The Michigan Public Utilities Commission will be represented at the hearing. According to members of the commission this is an effort to raise sugar beet rates to where they were about two years ago. Since the Blissfield company is a cane sugar growers that the effort to raise the tariff rates on shipping sugar beets is

in reality an effort to kill the sugar beet business in Ohio and Michigan. The sugar beet tonnage brings to the railroads of Michigan an income of five and one-half million dollars a year. It is the principal source of revenue for some of the lines in this state.

FORM POTATO GROWERS' ASSOCIATIONS.

POTATO growers in Montcalm county in the state, are organizing local shipping associations at the various shipping points. There are eighteen such places in the county. Already ten of these have such associations, each affiliated with the Michigan Potato Growers' Exchange.

The new branch office at Edmore will not only serve the growers in Montcalm county, but will also be the center for distributing tubers grown in Mecosta county. It is believed that this branch office will serve a real economic end in the marketing of Michigan's potato crop.

FOR THE BUSY FARMER.

WILLIAM DALEY, of Riverside, declares that growing dewberries between young apple trees has proven most profitable for him. While the vines have to be protected during the winter, he states that the average production is around one hundred crates per acre.

The Grand Traverse Farm Bureau, at their recent annual meeting, re-elected Ernest Lautner, president; E. A. Nickerson, vice-president, and E. T. Knight, secretary.

Federal crop estimators have put it down as their guess that this year's American potato crop will be sixty-nine million bushels less than the one harvested in 1922. The figures for 1923 are 382,000,000 bushels.

During the month of June, the Michigan Potato Growers' Exchange set a new record for June shipment of potatoes by sending out a total of 392 cars. The late season, and the smallness of the southern crop, are partly responsible for this heavy June shipment. During the same period in 1922 only 148 cars were moved.

Twenty-six boys from the various high schools in Eaton county have gone into the bean growing business. Each of these boys is growing at least an acre of beans, using Robust seed. In some instances the beans are being raised in competition with other varieties. The banks of the county are taking an active interest in the boys' work and are offering to send the winner to the International Live Stock Hay and Grain Show at Chicago this fall.

An investigation by D. L. Hagerman, industrial agent of the Pennsylvania Railroad Lines, indicates that there is a large potential market for Michigan certified seed potatoes on Long Island. These growers use approximately 500,000 bushels of northern seed annually. One car of Michigan seed is being used there this year. The future will probably depend upon the results obtained with this stock.

The creamery company at Decatur is furnishing funds for financing a pure blood Jersey calf club among the boys of that locality. Each boy is provided with sufficient capital to purchase a Jersey calf to start the project.

DEVOTED
TO
MICHIGAN
VOLUME CLXI

MICHIGAN FARMER

AND LIVE STOCK JOURNAL
PUBLISHED WEEKLY. ESTABLISHED 1843.

A Practical Journal for the Rural Family
MICHIGAN SECTION THE CAPPER FARM PRESS

QUALITY
RELIABILITY
SERVICE
NUMBER THREE

Digs Marl Successfully at Little Cost

This Equipment Requires Less Power Than Do Most Other Devices

By Frank O. Chenery

SINCE lime has become such an important factor in manuring for crops, and it has been discovered that in the majority of the small inland lakes there lies enormous quantities of it in the form of marl, the digging of this type of fertilizer has become a problem which many farmers have attempted to solve.

After investigating various contrivances for the digging of marl, I came

than one hundred yards of marl a day, taking it from the lake's bottom and depositing it on high and dry land where it can be easily reached with either wagon or truck. And furthermore, I am doing it with such little power and cost that any farmer who has a lake accessible and is in need of marl or lime for his land can well afford to make a like investment.

Many people have come from far and near to witness this machine in operation, and their chief question is: How did Mr. Phelan develop a scoop which could be dropped into the bottom of a lake, loaded with marl and be removed without a tremendous strain upon equipment and the need of a vast amount of power to overcome suction?

He did it by building a scoop which could be pulled out of the marl the same way it went in for its load without dumping itself in the operation.

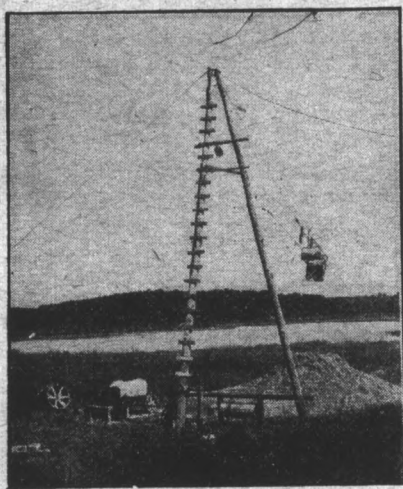
All other scoops I have seen had to be lifted in a perpendicular manner after they had been loaded, which forced a terrible strain on the track cable carrying the scoop, and required a forty-horsepower engine working to full capacity, attached to a six-ply tackle and operating on a low ratio drum to lift the load from the bottom of the lake. In working with this scoop, I find such little strain on every portion of my equipment and power that digging marl is a simple and easy operation.

The scoop is carried back and forth on a steel cable, one end anchored in the lake, and the other carried to a height of about thirty-five feet through the aid of a tri-pod tower made from three heavy poles. The track cable is raised and lowered for proper adjust-

a drive shaft working on two universal joints operating one at each end of the shaft.

This enables one to operate his machine from the seat of his tractor, us-

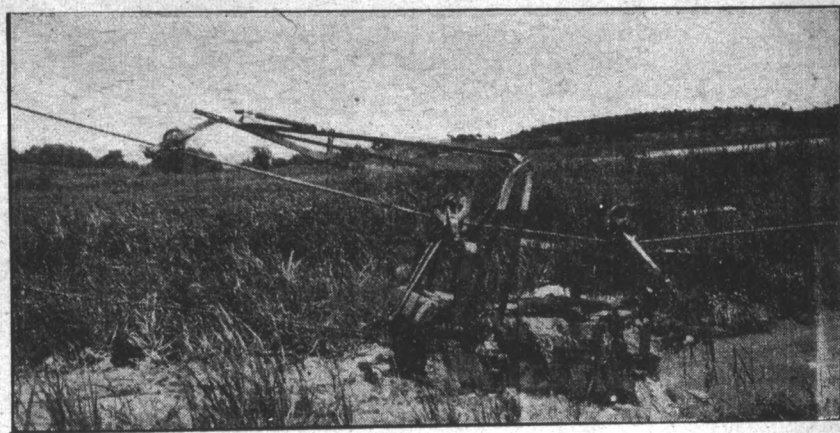
As the scoop travels along the track cable toward the tower, it is lifted higher into the air, where it finally reaches an automatic trip and is dumped. It takes from two to six minutes to make a round trip of the scoop, depending upon the distance one travels into the lake for a load. Two com-



The Tower and Scoop Just After it Has Dropped its Load of Marl. The Pile you See Here was Dug in Less than Two Days.

to the conclusion that the greatest force to be overcome was the tremendous suction which occurs when the scoop is once imbedded in the marl at the bottom of the lake.

Successful marl digging in an inexpensive manner, something farmers could afford to buy and operate, centered itself in the development of a proper scoop; something which would operate with little power and would do away with the excessive power



Just Coming Out with a Load of Marl. Notice the Tripping Arm is Extended when the Scoop is Closed.

ing the gear shift to run the scoop in either direction on the track cable.

The scoop is so designed that the tension on the draw cable, in whatever direction it may be, forces the scoop to operate automatically. The scoop opens at either end. When it enters the water it is in a dumping position. As it settles on the bottom of the lake it automatically closes. As it drags along the bottom the tension on the cable pulling it in forces the front gate open and the scoop is allowed to fill.

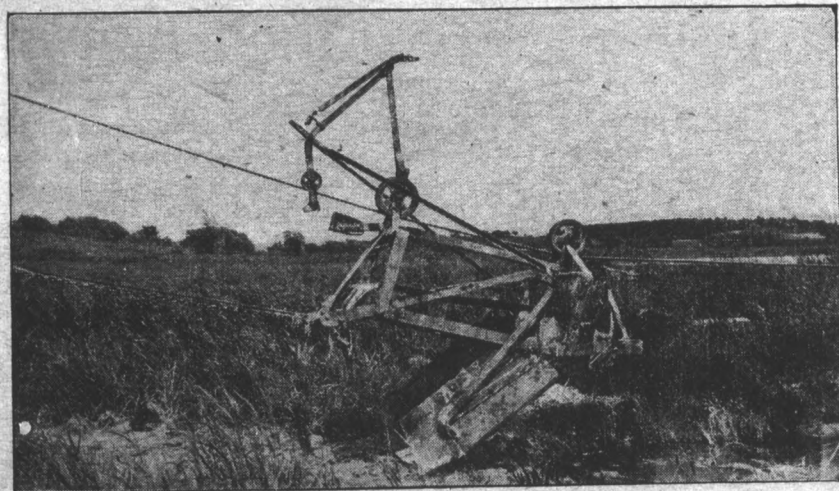
The endless cable runs slightly slack so that when the cable pulling the scoop from the marl tightens the other one is loose. This removes the tension holding the front gate open, and allows the tension pulling the scoop out to close this front gate automatically before it begins to actually remove the scoop from the marl bed. The scoop is drawn out over the same path which it entered. Everything has been cut away. There is no lifting the scoop from the bed through the use of the windlass on the track cable, and that suction which has been the bane of every marl digger's existence is entirely eliminated.

plete trips of the scoop digs one yard of marl, as the scoop has a capacity of one-half of a yard. One hundred yards of marl is a good day's work.

As to the actual cost of building such a machine, I am not ready to say. I had my own tractor, I built my own equipment. About the only thing I purchased was some second-hand elevator cable, some bolts and a few bearings.

Mr. Phelan has aided me considerably in the development of my rigging. The scoop is entirely to his credit, and from the experience I have had with it, and from what I have seen of other attempts at marl scoops, I believe I have the most successful and economical device for the farmer's use today.

It is certain to pay for itself in a short time for what it will do for my farm, and I believe in it so heartily that I can safely say, there is no need of anyone becoming discouraged over the digging of marl. It can be cheaply and successfully done with this type of scoop and rigging. The rigging is open to the inspection of anyone, and you can build it yourself. You, of course, will have to buy your scoop.



The Scoop About to Enter the Lake for a Load of Marl. As the Scoop Settles on the Bottom of the Lake it Automatically Closes.

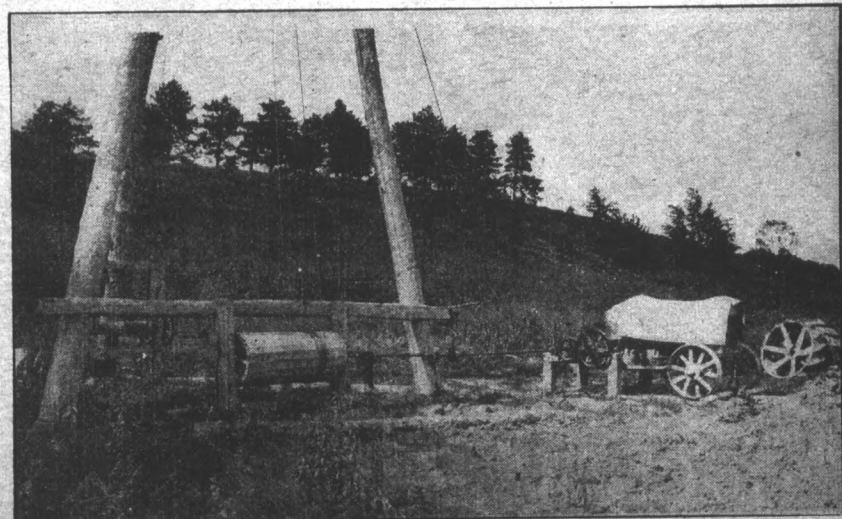
needed to remove the scoop from the lake's bed when it was finally loaded.

Mr. William Phelan, a farmer in Kalamazoo county, developed a marl scoop during the past winter, and for which I built the necessary rigging to operate. I felt certain that at last someone had developed a machine which would meet the requirements for successful marl digging.

My expectations have been fully realized, and today I am digging better

ment for digging through the aid of a hand-windlass which sets the scoop.

The scoop is forced back and forth on the track cable by an endless cable, its two ends being fastened at either end of the scoop. The cable operates on a drum geared to a tractor. The rear axle of the tractor is placed on a frame, the drive wheels removed, and two large bull gears are placed in their stead. These are geared to the drum, being connected with



At the Foot of Tri-pod Tower Showing How the Tractor is Geared to the Drum which Operates the Endless Chain.

MICHIGAN SECTION THE CAPPER FARM PRESS



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DETROIT, JULY 21, 1923

CURRENT COMMENT

When the young man or woman finishes college with the inquisitive mood still working, one may be quite certain that the years of student toil have not been spent in vain.

If any good thing can come of the spoiled-egg politics being played with the extension program and finances of the Agricultural College, we cannot force our imagination to figure it out.

This Wayne county farmer undoubtedly has friends. He says, "Although the tuberculosis work has cost me fully fifteen hundred dollars in cold money, I am fully in accord with the work and am lending my moral support to it."

Marketing the Wheat Crop

WITH the winter grain harvest practically completed and the threshing season at hand, the wheat market is of vital interest to farmers throughout the country. The recent rapid decline in the market to a point below the cost of production of this staple foodstuff makes the problem more serious, and one which should engage the careful thought of every wheat grower.

The first essential in a proper study of the wheat marketing situation is a working knowledge of the existing facts regarding production and demand. The July forecast of the country's wheat crop, which will be found on Page 23, of this issue, indicates that our 1923 wheat crop will be some 41,000,000 bushels smaller than last year's crop, and 14,000,000 bushels less than the five-year average. Domestic consumption should increase at least in proportion to the increase in population, and there is a possibility of a considerable increase in this factor through the influence of the "Eat More Wheat" campaign now under way. But there is a very considerable carry-over of old wheat and the new crop will again exceed demands for domestic consumption, in anticipation of which the speculative price of futures has declined, carrying with it the price for spot wheat.

The only possible present remedy is the orderly marketing of the crop and the storing of the surplus under growers' control. Plans for the pooling of the crop have been advanced, but it seems apparent that they cannot become immediately effective to remedy the present situation. The plan advanced by Gray Silver, Wash-

ington representative of the American Farm Bureau Federation, for the holding of approximately one-fifth of the crop in growers' hands has merit, and if it could be generally followed would probably steady the market to a degree which would make the crop net cost of production to growers.

Lacking adequate commercial machinery for the present orderly marketing of the crop through a growers' pool of sufficient magnitude to cope with the situation, orderly marketing must be generally practiced by individual growers, if speculative control of the market is to be avoided. And the small grower as well as the large producer should give the subject thoughtful attention, since wheat prices are to a very considerable extent a barometer indicative of the probable trend of prices for other foodstuffs.

Risks in Agriculture

MANY billions of dollars are invested in the growing of crops on American farms. In no other line of production is there the amount of capital required, nor the volume of labor employed as in the growing of our staple and special crops.

Because of the magnitude of the investment, many have chosen to call the farmer a gambler. This difference between the farmer and the gambler, however, has been pointed out: the farmer's risk is unavoidable; if he continues to produce crops the risks must be taken. The gambler, on the other hand, accepts unnecessary risks. He goes out of his way to take a chance.

Other businesses must also take unavoidable risks. But these are not so great as those taken by the farmer. Also, they hold less fear to the individual investor because the business man has insurance protection. His losses are distributed and become a regular charge.

But, heretofore, the risks in agriculture have seemingly been too great for insurance companies to undertake the writing of policies which will protect farmers against unavoidable losses or calamities.

The department of agriculture has, however, been making investigations along this line, and after much study has come to the conclusion that, at least, to the extent of repaying to the farmer actual damages suffered from reverses, insurance can be provided.

While a matter of such magnitude as this must come slowly, we feel certain that any practical method of taking some, or all, of the risk out of the business of growing crops will not only be appreciated but will be used by business farmers.

The Minor Major

THE activities of Old Biddy has made her one of the greatest producers of agricultural wealth in the country. This speaks pretty well for one of agriculture's side lines.

In fact, the showing poultry has made, has awakened the farmers to its possibilities, so that rapidly it is gaining the serious consideration of the man of the house himself. It is due his consideration for the housewife's egg money has often provided means of living while the farmer was getting other lines of farming on the paying basis.

In Michigan, the farmer's poultry produces about \$35,000,000 worth of wealth a year. The back-yard poultry farm produces about \$15,000,000 more. So the Michigan hen is giving us around \$50,000,000 for the care we are giving her.

So far, this care has been a sort of by-guess-by-gosh affair. But the poultry experts at the college are doing their best to get us to give biddy a

fair shake and thereby bring greater profit to ourselves. They fully realize that poultry is a major agricultural activity which is receiving minor consideration. Their job is to get us to give it its just major consideration. But they are handicapped.

This \$50,000,000 industry is getting some money for extension purposes, whereby the college men can give us the message of better poultry. But these men know that they are just scratching the surface of the possibilities of poultry raising; there are many unsolved problems which they are anxious to solve. But the handicap is that they are getting only \$500 for experimental purposes. On such a small amount nothing much of practical value to the practical poultryman can be learned. And in comparison to the amounts used for other agricultural lines it certainly is very small.

Perhaps the reason that not more has been appropriated is because we as poultry raisers have not put our influences behind the demand for it. It would be well for all of us interested in poultry to use our influence, no matter how small, to help our poultry experts to get greater appropriations for their investigational work. From a selfish standpoint it will pay us to do so, for from such investigations we will learn how to get greater profits from our poultry.

Too Much Dairying?

IN all probability we could look in vain for a commercial product which, during these past few years, has received more favorable consideration from the press, platform, and school-room, than has milk and its derivatives.

This raises questions in the mind of thoughtful and cautious dairymen. They are wondering whether or not this favorable attention to dairy products will not hasten the day when the dairy business will be overdone. Production may be so increased through this publicity as to make dairying unprofitable for the person who keeps cows.

No one can deny to the dairymen the right to ask these and similar questions. However, too many dairymen forget that this publicity is aimed principally at greater consumption and that there are facts, which every man who keeps cows for the production of commercial dairy products, should keep constantly in mind.

For instance, despite all the encouragement which has come to the dairy business, from both throat and pen, we, today, are a consuming nation and not an exporting nation, as was the case a few years ago. Our production has not kept pace with consumption. We use more of these products than our present dairies are producing.

Then, again, men of science have been delving deep into the facts of our living, and again and again, these research men have come to the surface to tell us that, for health's sake, we must consume more and more of dairy products. These conclusions of our food experts are finding an unprejudiced reception in the minds and hearts of the rising generation, the same as did similar instructions regarding the poisonous effect of alcohol find lodgement in the minds of the past generation of school children.

Furthermore, milk is no longer the perishable product it has been. In the form of powder, or in the condensed state, it can be kept indefinitely. Because of this very simple fact the state of Pennsylvania, during the past year, was in a position to produce six times more the amount of ice cream than did the largest dairy state in the Union, in spite of the fact that Pennsylvania had but one-half the number of cows. And Massachusetts with but a handful of dairy cattle was likewise able to produce a million pounds more

of ice cream than did our leading dairy state. In other words, modern dairy manufacturing enables farmers to produce raw milk where economy dictates, and then ship the preserved products to the uttermost parts for consumption.

And finally, it has been learned, that milk casein produces a glue of excellent quality. Industry is in need of more good glue than can be secured from old sources. So now she is taking all of the milk casein that can be produced during the flush season of the year for this purpose.

These facts about the dairy industry will aid the individual dairyman in judging more closely of factors which will have a material influence on the future of the dairy business in this country.

Detour

WHEN you go in your Oughto you see that word lots of times. It means that you gotta turn off the road you been going thirty-five miles a hour on, and onto another what you kin go only ten miles per hour.

For inst., me and Sophie was goin' along on what some folks call a marvolous road, when we come to a sign what said, "Detour, Road Closed. Follow the Arrows."

Now, I've heard of lots of folks following the horses for a kinda speculashun, but it never got them anywhere, and so we didn't know if it was goin' to be alright to follow arrows or not. But we found that there's lots of speculashun followin' arrows, but they get you somewhere just the same.



Now, this what you call detour me and Sophie made, started out tolerably well, but in a little while it takes us in the woods, what ain't got room enough for a road, but the road is there just the same. Then we come by a sand hill what we had to go into low to get down.

Of course, when you go down you gotta try and go up. The goin' up was what you call suffishunt for one day's endeavor.

My Oughto ain't a good wader; it kinda likes somethin' solid under it. Well, the consequences was that Sophie had to get out and push while I was manipulat' the speeds. There's sometimes when its nice, when you are the only one what kin drive. I don't like to push, and besides Sophie is a better pusher than me, 'cause she is pushin' me all the time.

Well, when Sophie was out in back of the car, I says, "Alright, start." I start the engine, what you call vigorously, and we get a goin' pretty good. When I stop to see how Sophie is comin', I just see her gettin' up from the road and rubbin' the sand from her eyes. You see, the Oughto's back wheels give her what you call a sand shower. She had grit enough all over her whereabouts to last her a week. Well, besides buttin' a stump and nearly doin' lots of other things, we got along pretty good, and in a little while we was on a thirty-five-mile road again.

Detours is all right, 'cause they is changes. They make the regular roads of life more interestin'. Me and Sophie has just had a detour in life. We just left the old farm after hayin' and burnt up some gasoline seein' the country. It did us lots a good to sleep in different beds and eat different meals.

And now we are back, tired, but feelin' better, and we got somethin' to tell other folks.

I think everybody should take a detour once in a while.

HY SYCKLE.

They Produce Superior Products

Then When Buyers Become Acquainted with the Quality of the Goods the Marketing is Not so Difficult

By H. C. Rather

MID the urgent demand for more efficient marketing of farm products and the many movements that have arisen in response to this demand, it is not amiss to consider the work of that nature being done by the Michigan Crop Improvement Association.

The Michigan Crop Improvement Association is an open organization of Michigan farmers whose function is to produce and distribute quality seed of improved crops varieties. This, of course, involves the marketing of the seed as well as its economical production.

In this work certain fundamental laws which govern every successful business are recognized. The association recognizes first that if its seeds are to command a premium over ordinary farm seeds they must possess greater value. People will not pay premiums for common products. To give the added value the association standardizes its product on the basis of a rigid inspection system impartially supervised which makes possible the certification that all seed sold comes up to high standards of merit and desirability.

Much of the superior value of association seed lies in its breeding. The work in plant development is done by the Farm Crops Department of the Michigan Agricultural College.

Each year M. A. C. plant breeders are contributing something of vast importance to Michigan agriculture in the way of improved crops. Rosen rye, Red Rock wheat, Worthy and Wolverine oats, Duncan and M. A. C. Yellow Dent corn, Robust beans and the new Hardigan alfalfa, are active testimonials to the value of this work.

Farmers frequently desire to renew

their stocks of seed from a variety of known merit. Too often it is impossible to secure seed of sufficient purity to really perpetuate the desirable characteristics of that variety. The association in its cooperative relationship with the Michigan Agricultural College gives growers assurance that they may renew seed from dependable sources. To do this requires a knowledge of the ancestry of the seed and a knowledge that these previous generations have been grown without contamination. We have such data on certified seed. We can trace its ancestry back through inspected fields to its original pure line source and while these inspections are put on by the Crop Improvement Association they are supervised impartially by trained men from the agricultural college.

Seed certified by the Michigan Crop

Improvement Association, therefore, is seed of adapted high-producing varieties, since only those varieties of demonstrated value are accepted for inspection. This insures purity of variety, freedom of weeds and other crop mixtures, good color and appearance, good weight, and high germination. These qualities give certified seed extraordinary value. Fundamentally, the rendering of such service is the basis upon which all successful marketing is done.

The organized marketing of certified seeds hinges first and foremost upon organized production. A standard quality product would not be possible if each member were growing a different kind of seed. Organized production and organized inspection insure standard grades of seed, both as to heritage and outward quality.

But the farmers of the Michigan

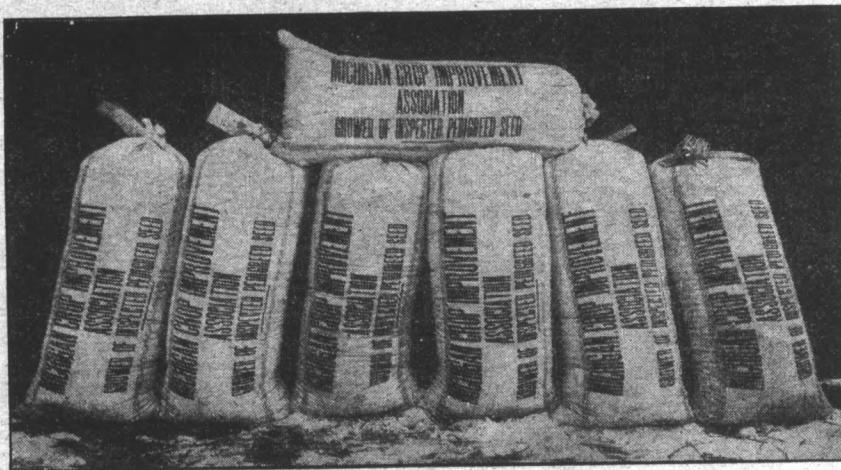
Crop Improvement Association are not resting their faith on that pretty adage about him who builds a mousetrap better than all others will have the world beat a pathway to his door in the wilderness. Michigan's certified seed growers are placing their "mouse trap" in conspicuous places on widely traveled highways. Every legitimate means is used to attract the attention of buyers to certified seed, just as great manufacturers call the public attention to their products.

Farmers buy seed from several sources. They buy from their neighbors, from local seed stores, from cooperative and private elevators and from large seed houses. Not a single one of these channels but what through it there is passing Michigan certified seed.

Nearly every grower in the association sells an important percentage of his crop to his neighbors. Several of the seed growers have built up strong reputations as seedsmen and men like C. D. Finkbeiner, of Clinton, of Red Rock wheat fame; Ralph Arbogast, of Union City; Charles Laughlin, of Dansville, and L. L. Lawrence, of Decatur, are able to retail their entire seed crops from the farm.

Other growers find an excellent outlet for their certified seed through the local elevators. Milo Robinson, of Union City, has been selling his Pickett corn through an elevator for several years. The venture has been profitable to himself and has been carried on to the extent that that entire community is practically standardized on this excellent variety. Claude Cole, of Caro, Ray Gilson, of Midland, and others, found this to be an excellent way to sell certified Robust beans.

(Continued on page 61).



This Shipment will Help Build Michigan's Reputation as a Seed State.

The Tree that Made Michigan

*Is Now Being Grown Extensively in Our Large State Forest Nurseries.
We Should Protect It Against the Blister Rust.*

By Dow V. Baxter

WHEN Jean Nicolet visited what is now known as the great state of Michigan, or later in 1668, when Pere Marquette paddled along the northern shores of Lake Huron, our region was one of the greatest potential lumber-producing countries in the history of the world.

The people honestly believed, for years after the first saw mill operated at Mackinaw, that Michigan's great white pine forests were inexhaustible. The industry assumed immense proportions and logging the famous cork pine began on a large scale soon after the Civil War. That generation of lumbermen, the real founders of the state, have now seen the passing of the white pine and of Michigan's great forests.

Today it is difficult to locate even a few acres of the original stand. In many sections of the state, once heavily timbered and productive, thousands and thousands of acres have been changed into waste sand, producing little save sweet ferns and huckleberries. Only charred stumps remain to tell the story. Experience of the past fifty years has brought us in contact, only too real, with the deplorable calamities of destruction and almost the extermination of the white pine that made Michigan.

White pine for the long period of years made up a principal cut for the

lumber industry. The lumber was best and the trees were plentiful. It was used for everything from houses down to firewood. White pine made good shingles, it made good flooring, and rafters. The clear, straight grain worked easily and could be put to almost as many uses as wood itself.

The white pine tree may be easily recognized by the character of its fine soft needles arranged in clusters of five. Five needles occur in a bundle. By counting the needles, the white pine may be readily distinguished from the other pines occurring in the state. Jack pine and Norway or Red pine, have only two needles in a cluster. The smooth light-colored bark of the young trees or of the twigs and young branches of the older veterans is also a good character by which one can identify the white pine.

At the state nursery on the Higgins Lake Forest in Roscommon county, thousands of young pines are grown yearly in one of the largest nurseries in the country for the purpose of reforesting idle lands. The white pines are also grown in large numbers at the Michigan Agricultural College where experiments are being conducted with the trees. The State University, through its forestry department,

is also carrying on extensive experiments with white pine at the Saginaw Forest near Ann Arbor.

The white pine is also highly adaptive for ornamental planting and its value cannot be underestimated. However, the greatest care should be exercised when one is purchasing white pine. There is a disease known as the white pine blister rust which is one of the tree's greatest enemies. This rust is often difficult to detect on pines for a long period after they have been infected, and during this stage the trees may seemingly appear to be thrifty. This disease already threatens white pine in certain sections of our country and has been found as isolated cases in two Michigan counties.

The White Pine Blister Rust.

The parasite was brought into this country from Europe, but it was not discovered in time to be completely eradicated. However, the blister rust can be controlled, providing the proper measures are immediately taken by pine owners.

The rust is a parasitic fungus which kills the trees. Infection of the pine takes place through the needles, and the parasite grows down into the twigs. The bark becomes swollen and finally

yellowish blisters break through the diseased bark. These are formed during the spring. These pustules are filled with spores which are blown great distances by the wind. They are not able to reinfect pine, but are capable of infecting currants or gooseberries. The cultivated black currants are especially susceptible. The rust appears on the undersides of the leaves, producing spores which are capable of infecting other currant and gooseberry plants. In this manner, the rust may become widespread during the summer. Later on in the season, spores of another kind are produced on the diseased gooseberry and currant leaves. These spores may bring about the infection of white pine.

To prevent further dissemination of the rust, the government has quarantined many sections of the country. Shipping out of currant or gooseberry plants and white pines from states where the rust is known to occur, is prohibited.

Diseased plants should be burned at once.

You can protect your pine if the gooseberries and currants are pulled up for a distance of 900 feet. The rust must first grow on currants or gooseberries before the life cycle of the parasite is complete. The remedy takes advantage of this—the eradication of all such plants within this area.

Late News from Washington

IS GETTING ATTENTION TO AGRICULTURE.

FARMER CUNNINGHAM is evidently getting in some effective work on the Federal Reserve Board. It is apparent that it is making an effort to give substantial aid to farmers in the marketing of their crops. A circular issued by the board calls the attention of all reserve agents to "the importance of the federal reserve system in providing adequate financing for the orderly marketing of agricultural products during the coming marketing season."

Some timely and pertinent advice is handed the country bankers. It is suggested that "officials of all the federal reserve banks, including branches, inform themselves fully regarding the added facilities for agricultural financing made possible through legislation enacted during the last congress. This done, the federal reserve banks should give the information to the public, especially to the member banks, cooperative marketing agencies and producers and buyers of agricultural products."

REPORT IS ENCOURAGING.

A GRAIN of encouragement is contained in the figures covering the government's financial operations for the fiscal year ended June 30, made

public by the treasury. They show receipts for the twelve months of 4,007,135,480 and expenditures of \$3,697,478,020, leaving a surplus of \$309,657,460.

The new tariff bill is proving a success from the point of raising revenue. Receipts in customs duties totaled \$561,928,866, almost sixty per cent greater than for the fiscal year ending June 30, 1922.

CITY FOLKS OBJECT.

THE recent proposition advanced by Gray Silver, Washington correspondent of the American Farm Bureau, that farmers hold off the market 200,000,000 bushels of this season's wheat crop, by the aid of the warehouse and agricultural credit acts, has met with caustic criticism in the metropolitan papers, the editors seeing in the proposal an attempt on the part of farmers to hold up the consumers.

In reply to these criticisms, Mr. Silver says that if the 200,000,000 bushels of wheat which we are likely to have for a surplus in excess of our domestic and export needs goes into the hands of speculators instead of being held on the farms through the agency of the intermediate credit act and the warehousing act, it will do so to the disadvantage of both the producer and consumer. To dump on the market a

large amount of foodstuffs which cannot be consumed will not only demoralize the wheat market but the market for other foodstuffs. Restoring wheat to cost of production does not mean the price of bread would be raised, for according to congressional investigations the price of bread has very little to do with the price of wheat. It was shown in a congressional investigation in 1920 when wheat was selling at twice the present price that a ten cent loaf of bread would sell for eight cents or more if all the ingredients necessary to the making of bread were contributed without cost.

LAWS FOR BENEFIT OF AGRICULTURE.

IN his report of the Washington office of the American Farm Bureau Federation, Gray Silver, Washington representative, says that the sixty-seventh congress enacted twenty-six laws of benefit to agriculture. "We have achieved the authorization of cooperative marketing with its big implications of order, foresight, prudence and adaptability in marketing, giving us the strength of massed millions and arming us for the contests of the markets with the same big business methods that our buyers use. We have brought about the financial emancipa-

tion of the farmer and equipped him with one of the greatest banking institutions in the world through the general rural credit law. We have secured the enactment of several laws of the greatest value in defending farmers and the general public from the inimical practices and selfish exploitations by the predatory interests that seem impossible to cure without legislation. We have made a start in the direction of legislation affecting the lowering of farm costs in what we buy."

Mr. Silver put much emphasis on the question of lower production costs: "The Muscle Shoals project is to be the test case of the application of the fundamental thought that the question of applied power lies at the root of farm costs, and also of farm comfort and well being." The basic solution of the problem is to get rid of the crushing interest charge which is the chief part of water power cost. The nub of the Ford proposition is to apply earnings from the Muscle Shoals power utilization to amortize, that is, gradually pay off the original cost of the improvement. After a certain number of years, Mr. Silver points out, the government investment will be repaid and the Muscle Shoals development will not have to reckon with the crushing burden of interest charges on capital that refuses to be paid off.

Surveying Michigan Crops for 1923

First Government Estimates Show that Despite Labor Shortage Farmers will Harvest About Normal Yields

THERE has been considerable improvement in nearly all crops during June; corn, beans, alfalfa, peaches and grapes were above the ten-year average condition on July 1. Hay is the most disappointing, although alfalfa has maintained its splendid reputation by adding a good crop to the otherwise light hay production in Michigan this year. Strawberries were seriously reduced by the drought, and pears and plums are relatively light, but all other fruits promise well, according to the July report issued by L. Whitney Watkins, commissioner of agriculture, and Verne H. Church, agricultural statistician, United States Bureau of Agricultural Economics.

Corn.—A good acreage was planted, but a shortage of labor, and a heavy abandonment of farms has caused a reduction of two per cent from that of last year, leaving 1,686,000 acres. The condition is eighty-nine per cent, or six per cent better than the average of the last ten years. This forecasts a crop of 60,022,000 bushels, which is nearly equal to that produced last year.

Wheat.—An improvement of two per cent in condition during June was reported, making the condition seventy-eight per cent as compared with eighty-five per cent last year, and a ten-year average of seventy-nine. This slight improvement brings the estimated production up to 15,478,000 bushels, or nearly ten per cent more than last year. The amount of old wheat remaining on farms is estimated at 6.5 per cent of the 1922 crop. The condition of spring wheat is also seventy-eight per cent.

Oats.—The season has been dry for oats and the straw is very short on the light and rolling lands. Considerable improvement has taken place in some sections, and they are apparently filling well. The crop is estimated at

45,298,000 bushels against a production last year of 49,434,000.

Barley.—The crop has suffered from dry weather in common with other spring crops, but has improved very materially of late. The present outlook is for a crop of 3,299,000 bushels, as compared with 3,500,000 last year. The straw is short in many sections but is apparently filling well.

Rye.—The reduced acreage has low-

ered the production, as compared with last year, by about 1,000,000 bushels. The present condition is eighty-six per cent, two per cent below the ten-year average, and represents a crop of 7,261,000 bushels.

Hay.—Clover and timothy hay proved to be the poorest of all Michigan crops this year. Dry weather and a backward season prevented a normal growth and the hot weather late in

June hastened maturity. A few eastern counties, that had a more plentiful supply of moisture, have a very good crop of hay. The estimated production is 3,588,000 tons as compared with 4,530,000 tons last year. Alfalfa is in good condition, being two per cent above the ten-year average. The first cutting has been completed. The hay crop for the country as a whole is over 6,000,000 tons less than in 1922.

Pastures.—The condition is eighty-three per cent as compared with eighty on June 1, and a ten-year average of eighty-six.

Beans.—Farmers of Michigan have planted an increased acreage in comparison with last year, many potato growers having substituted beans for potatoes, and other crops having been reduced in many sections. The increase is largest in counties outside the central bean-growing area, and for the state amounts to twenty-four per cent over last year's harvested acreage, or a total of 568,000 acres. This is only about twelve per cent over the amount actually planted last year. Shortage of labor and a greater acreage of sugar beets prevented a larger increase. The present condition is ninety-one per cent, representing a production of 6,719,000 bushels. As in all crop estimates, future weather conditions may materially alter this figure. The production estimates for other bean-growing states are as follows: New York, 1,463,000; Wisconsin, 148,000,000; Colorado, 1,423,000; California, 4,473,000; Idaho, 534,000, and New Mexico, 229,000 bushels.

Sugar Beets.—A much larger acreage was planted this year. The condition is slightly below normal as considerable replanting was necessary. The present outlook is eighty-four per cent of a normal crop.

Field Peas.—The condition is eighty-seven per cent, or one per cent below normal.

Farmers Gather Next Week

On July 27th Annual Farmers' Day will be Held at M. A. C.

WITH speakers booked for the general program, live stock groomed for the show ring, experimental plats ready for inspection, and general entertainment features listed, plans are completed for the sixth annual summer Farmers' Day at the Michigan Agricultural College, Friday, July 27.

Automobile parties from practically every section of the state will drive to East Lansing for the big gathering, which is expected to equal last year's record crowd of five thousand farmers. From a comparatively humble start in 1918, when some 500 farmers met on the M. A. C. campus for a special war-time wheat day, the Summer Farmers' Day has grown to be one of the state's most important agricultural gatherings. The keynote is sounded then on many important farm problems; visitors get acquainted with the work of the college, and post up on the latest developments in the agricultural experiment station; and a general social picnic, rivaled by few other gatherings in the state, is held.

Many acres of interesting and valuable experimental work in crops and soils fields will be inspected during Farmers' Day. Blue ribbon winners in horse, cattle, sheep, swine and poul-

try classes will pass in review. Conferences will be held on various matters of agricultural interest, and groups from widely scattered sections of Michigan will gather over the picnic tables in social hours.

The open air meeting under the campus trees in the afternoon will find O. E. Bradfute, of Ohio, president of the American Farm Bureau Federation, as the headline speaker. Eben Mumford, among the best known and most talented speakers in the state, will also address the gathering. There will be a band concert and other entertainment features, with President R. S. Shaw presiding over the meeting.

Women will have their own headquarters in the college woman's building during the day. Special games will be conducted for the children under the direction of R. A. Turner, the state leader of boys' and girls' club work.

Outdoor exhibits, each stressing some vital and timely agricultural topic, will be placed on the campus near the meeting ground. Specialists from the various college departments will be at these exhibit booths to discuss special farm problems with visitors.

RAILROAD LEGISLATION TO DOMINATE NEXT CONGRESS.

NOTWITHSTANDING the demand coming strongly for lower taxes, Senator Smoot, of Utah, who is to become chairman of the senate finance committee, says there will be no revision of the revenue laws at the next session of congress. Railroad legislation, says Senator Smoot, is certain to be one of the first considerations of the new congress. Farmers in the west will not be satisfied until freight rates are lowered.

URGES THE HOLDING OF WHEAT.

ENCOURAGED by the western speeches of President Harding, in which he has spoken frequently of his earnest desire that some system be devised whereby the farmer may receive a larger return for his labor and investment, the Washington office of the American Farm Bureau Federa-

agriculture, who has just returned from Rome, where he made a survey of statistical methods of all foreign countries in reporting crop data to the International Institute of Agriculture.

HEADS FARMER-CREDIT INSTITUTION.

MR. CHARLES E. LOBDELL, who recently resigned as commissioner of the Federal Farm Loan Board, has been appointed fiscal agent and general counsel for the twelve federal land banks and the twelve federal intermediate credit banks.

LABOR ASKS FOR HIGHER WAGES.

IF high wages in the industries have an influence in boosting prices of farm products we may look forward to a high range of prices for farm products the coming fall. Workers in all the government navy yards have



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tion has called upon the President to use his influence in promoting a campaign to induce wheat growers to hold 200,000,000 bushels of this year's crop off the market, the wheat holding to be financed by the Intermediate Credit banks.

By prevailing upon the farmers to avail themselves of the new warehousing and intermediate credit acts and withdrawing from the visible supply for this year a minimum of 200,000,000 bushels of wheat by warehousing under government supervision, that quantity on the farms to be financed through the Intermediate Credit banks and not to be distributed during this consumption year, it would give the farmers an opportunity to adjust their acreage in fall and spring seedings so that no unduly large surplus need exist when marketing the next crop. Mr. Silver thinks that such a move would lift the price of wheat from seventy-five to eighty cents, the present price, to \$1.40 or \$1.50, and would continue it on that basis through the year. He believes the farmers have a right to store wheat on their own farms under the warehousing and credit acts, and that this move would go farther to better the position of the wheat growers than any other proposition that has been made.

ITALIANS ARE POOR PRODUCERS.

ITALIAN fruits sell at prices below American citrus fruits in the American and British markets, because they are not properly graded and of uneven quality. The apples on sale in Italian markets are wormy and of inferior quality. The Italian farm is cultivated on an intensive scale, but there is much loss because of a lack of spraying knowledge and spray materials and apparatus. This is the information given out by Joe C. Barrett, market statistician of the department of

been granted an increase of ten to twelve per cent in wages. The anthracite miners are demanding a twenty per cent wage increase with a two-year contract. There is an upward tendency in all lines of industrial labor wages.

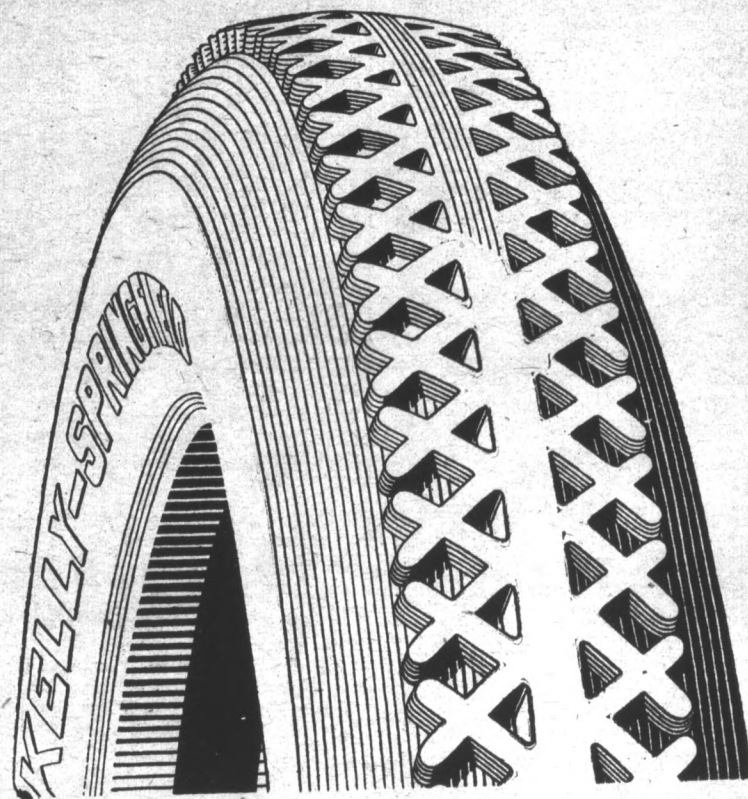
Reports are coming to Washington from all parts of the country that it is about impossible to secure farm workers at any price. Many farmers are seriously hindered in their harvest because of this labor shortage.

SEEK DATA ON NITROGEN SUPPLIES.

TWO nitrogen experts in the department of agriculture have gone to Europe to study the various processes of taking nitrogen out of the air for fertilizers. At this time two experts in the Bureau of Mines, Department of the Interior, are on their way to Chili to investigate the Chilean nitrate industry.

Much evidence is being gathered which indicates that the control of the present available nitrate supply is none too favorable to the American farmers, who are among the world's largest users of nitrogen. Charles J. Brand, market specialist for the department of agriculture, who recently returned from Europe, says the evolution of the nitrate trade is operating to give Great Britain a strong advantage over this country. The control of prices for Chilean nitrates practically rests with a London committee made up of representatives of the British nitrate houses. With ninety-seven per cent of the output controlled by a producers' association, competition which might force efficiency and economy in the production of the fertilizer is eliminated, and the United States, which buys half the nitrate exported from Chile, is left without any say as to the price.

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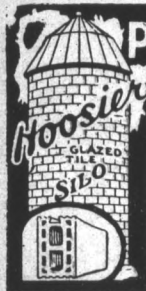
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PURE BRED FOX HOUNDS all ages. Pups bred especially for Coon, Skunk and Rabbits. W. E. LECKY, Holmesville, Ohio.

OUR SERVICE DEPARTMENT

Always Give Name and Address When Sending Inquiries as Satisfactory Service Cannot be Given to Unsigned Letters

TRANSFERS STOCK TO NEW COMPANY.

Three years ago I paid \$390 for twelve shares in a motor company. They are now going to reorganize as a new concern. Their scheme is to get the old stockholders to buy stock in the new company to the number of shares they held in the former company. They claim the stock in the old company is worthless unless the stock is bought in the new company. Does this hold good in law?—E. W. P.

The enclosed circulars show that almost the entire stock voting and constituting a very large majority of the outstanding stock of the old company has voted to transfer all its assets to the new company; and if the preliminary notices of the meeting of stockholders were proper, as we must assume, the transfer is good, and the old company has no property left. I take it the consideration to the old company for the transfer was the assumption by the new company of the old company's debts and the release by its creditors.—Rood.

BUILDING AND REPAIRING LINE FENCES.

When A. claims a certain part of fence, is B. the one to fix holes where they are below wires? Can C., to please A. and spite B., order B. to put up line fence, picking out a fancy and expensive kind?—J. L.

Each fixes his own part of the fence and keeps it in repair, and it may be made of any material that will make a fence sufficiently secure to turn stock usually kept upon a farm. The material is selected by the person making the fence.—Rood.

FILLING DITCH.

Can C. fill a line drain ditch if slope of ditch and dirt out of same is inside B.'s survey stake, and filling causing drainage to be blocked from both B.'s and C.'s rear land. Ditch in use over ten years.—J. L.

The right of C. to fill the ditch depends upon the right of B. to have it open; and this in turn depends upon whether the ditch was originally constructed by agreement, or as a public ditch, or was along the line of a natural watercourse, or has been laid out and maintained for more than fifteen years. Under any of these conditions B. would have a right to have it kept open.—Rood.

TRESPASSING HENS.

Can A., when an occasional hen gets into her yard through hole under A.'s fence, catch the hen and wring its neck and throw back into B.'s yard? Can A. imprison hen? If so, can A. catch and carry with wings of hen, imprison her in a dark unventilated box, give no feed or water or fix a nest?—J. L.

A. is liable to the owner of the hen for any intentional damage done to it while found trespassing, but has the right to keep the hen till the damage it has done is paid, together with the cost of keep. He would not have the right to shut the hen up without feeding.—Rood.

DISPOSING OF CROPS WHERE THE LAND IS SOLD.

A. sows rye on his own land, sells rye to B., and sells farm to C. No reservation was made when rye was sold for the straw. Does B. get the straw?—Subscriber.

A person owning growing crops may sell his crops separate from the land and the sale of the crop would include the straw, but a sale of the land to

one having no notice, actual or constructive, of a prior sale of the crop would entitle him to the crop, including the straw.—Rood.

PERIOD OF REDEMPTION.

How long can I stay on farm after foreclosure of mortgage? Notification was served on January 9, 1923. Sale takes place on August 11, 1923.—S. N.

If the foreclosure is by advertisement the mortgagor is entitled to redeem at any time within a year after the sale. If the foreclosure is in chancery he is entitled to redeem within six months after the sale. When this time has expired, the purchaser at the sale is entitled to possession at once.—Rood.

LIVE STOCK RUNNING AT LARGE.

What are the laws in Michigan relative to live stock running at large in the highways?—F. A. P.

There is a statute providing that the township may, at town meeting, vote to allow stock to run at large within the township, and if this is done the stock is not subject to be taken up as strays by reason of being in the highway. But even such a vote does not excuse the owner of the stock from liability from any depredations they may do by wandering outside of the highway even though unfenced. The owners of land adjoining the highway are not under any obligation to fence it and are entitled to seize and impound any animals trespassing thereon and hold them until payment of any damage they may have done.—Rood.

FARMER'S LIABILITY FOR NEGLIGENCE INJURY.

If a farmer's hired help gets hurt, is the farmer liable for damages? Is it lawful to cut trees down on my side of the public highway?—C. K.

Farmers are expressly excluded from liability under the employer's liability act, but are liable as at common law for any injury resulting from their negligence if the person injured is free from contributory negligence.

In a prior issue, the right of the owner of trees growing along the highway to cut them was discussed at length. The person owning the abutting land owns the trees in the highway.—Rood.

MOTOR VEHICLE OPERATOR'S LICENSE.

How old must a person be to own and drive a motorcycle? What is the cost of a driver's and regular license, and where can they be obtained?—V. H.

License to operate a motor vehicle is obtained from the secretary of state, costs fifty cents, and the person must be at least sixteen years of age to obtain the license. This matter is governed by Act 368 of Public Acts of 1919.—Rood.

A CORRECTION.

In an item published in the Service Department of the July 7 issue, under the heading of "Fixtures," there was a misprint.

The corrected item follows:

I am renting a farm. If I put up a poultry wire fence on the farm, can I take the fence down and take it with me when I move?—H. H. W.

Such a fence would be a fixture which the tenant would have a right to remove at any time before delivering up possession.—Rood.

AUTOMOBILE INSURANCE A NECESSITY

Howell Company has a
Remarkable Growth

A review of last year's fatal accidents show 81 per cent of the total number of people killed by automobiles were pedestrians. Sixty-six per cent of the pedestrians so killed were, according to the coroner's verdict, more careless and negligent than the drivers. It is said that 80 per cent of the pedestrians killed were killed while jaywalking. Automobile owners find that with the increased traffic there is great danger of accidents and it is important to keep insured so as to get the service of able adjusters and investigators to determine who was at fault.

The Citizens' Mutual Automobile Insurance Company of Howell, has had a remarkable growth. During the first six months of the year 1923 the increase in new business was 65 per cent while the increase in net assets in comparison with a year ago was 83 per cent. On July 1st the company had total assets of over \$350,000.

It has been the policy of the company to pay its claims promptly and to investigate and determine the rights in serious cases. The company has found that the majority of people are fair but in cases where the injuries are exaggerated or where the claim is without merit the company is prepared to make the contest in behalf of its policy holder. Many of the leading men of the state, such as Ex-Governor Rich, the late Governor Warner, in fact, over 40,000 of the leading business men and farmers of the state are insured in this company.

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SPRINKLER PIPE AIDS LATE STRAWBERRIES.

THIS berry grower, E. O. Westerfield, employs a single line of sprinkler pipe with considerable success in the raising of Everbearing strawberries. The sprinkler is not called into operation save as the dry weather requires its use, but at such time its service works wonderful results in keeping the plants from drying up and losing the power to put out new blossoms.

Mr. Westerfield believes in rich soil for strawberries. He aims to keep the plants well cultivated and in the case of the Everbearing varieties he removes the blossoms periodically until about the first of August, after which he permits the fruits to mature so long as growing weather permits of

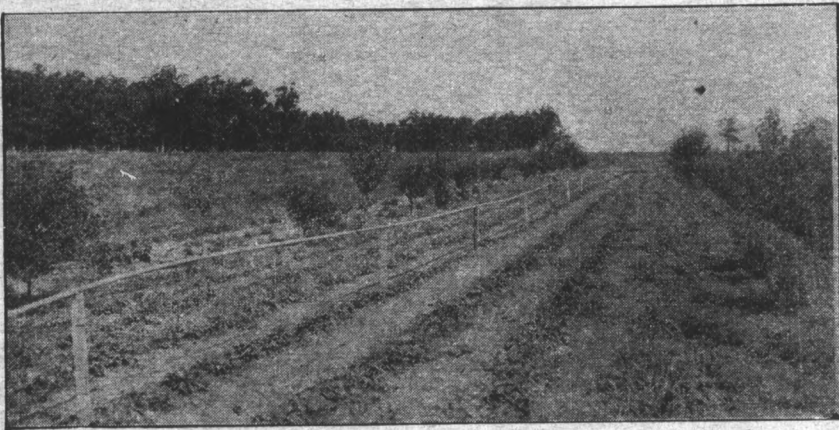
as good as last year, but the increased acreage leads growers to believe the total crop will be nearly as large. The present estimate is for a commercial crop of 5,440 cars as compared with 5,800 in 1922.

Dry weather shortened the strawberry production fully one-half in some sections, and reduced the total for the state to sixty-three per cent of a crop.

GATHERED FOR FRUIT MEN.

CANNERS are hedging on cherry prices in the western Michigan districts, they offering prices which, the growers claim, do not warrant handling the crop. City markets for fresh cherries is more attractive.

Raspberry growers of Ottawa, Kent and Muskegon counties gather this



This Easily Built Overhead Water System was Responsible for Increasing Mr. Westerfield's Late Crop of Strawberries.

their ripening. It is this grower's method to plant a new bed every spring.

He finds that in this way a larger crop is secured in the fall. This he thinks is the only practical course to follow with the late fruiting varieties. It is usual on this place to be able to gather enough berries for a strawberry shortcake at Thanksgiving time and Mr. Westerfield states that somehow strawberries never "hit the spot" quite so effectively as they do just before snow flies.—O. C.

MICHIGAN'S FRUIT CROP NOT SO LARGE AS LAST YEAR.

HERE are the estimates of the fruit crop in Michigan as made by the federal crop reporters:

The prospect for apples indicates a crop of 11,042,000 bushels, as compared with 11,850,000 last year. The set varies widely and there has been a heavy drop in some orchards during June. Winter apples are considerably heavier on the average farm than the summer and fall varieties. The commercial portion is placed at 1,840,000 barrels, or about ten per cent more than produced in 1922.

Peaches show a prospect of seventy-four per cent of a crop, or a total of 1,333,000 bushels. Last year's crop was 1,440,000 bushels.

Pears and plums are relatively light, the condition being fifty-two and forty per cent respectively. The pear crop is estimated at 398,000 bushels as compared with 672,000 last year.

Blackberries and raspberries show a condition of eighty-four per cent as compared with an average of eighty-seven.

Cherries are placed at seventy per cent of a crop. The crop is very good in some orchards; in others there has been a considerable drop and in some a failure to set freely.

The outlook for grapes is not quite

week on the farm of H. L. Dinkel, near Conklin, in Ottawa county, to make a study of methods of controlling raspberry diseases. The demonstrations are under the supervision of M. A. C. extension specialists.

Looking to the development of a permanent market for Michigan fruit, organized growers at Hart, Ludington, Scottville and Onkama have raised an advertising fund and are running page advertisements appealing to the housewives of Milwaukee. This appeal runs, "Ask for and insist on Michigan cherries, berries, plums, pears, apples and peaches. They are the market's best fruit, famed for their flavor."

The cherry camp at Northport will probably open about the first week in August. This camp was started during the war when help became so scarce that the only method of getting the crop harvested was to secure the services of girls who desired to spend their vacations in the northland. The girls pick cherries to defray expenses. The experiment was so successful that it has been repeated each year and now is a permanent institution. This year two hundred girls from western Michigan cities will take advantage of the outing.

Fruit growers generally are watching the consumption end of their business more closely. For instance, many of these men have observed that Michigan restaurants and eating places do not supply their customers with fresh Michigan fruits in season. Some of the keepers state that Michigan consumers do not call for these fruits. The opinion of thoughtful people is, however, that consistent publicity would bring a wider use and appreciation of the splendid products grown upon Michigan trees, bushes and vines to the fullest satisfaction of the consumer and to the benefit of the grower.

BETTER FERTILIZERS

Darling's Fertilizers Are Better—

BECAUSE Darling's Animal Base Fertilizers derive ammonia from high-grade animal tankage—the most effective source known.

BECAUSE Darling's Fertilizers supply sufficient, quickly available ammoniates, for early plant growth while the bulk of the ammonia is supplied gradually throughout the growing season—this insures continuous and maximum plant development.

BECAUSE we produce Acid Phosphate lower in free Sulphuric Acid, containing less moisture and in better mechanical condition, manufactured by a special process.

BECAUSE we have the only plant in the Middle West using this special process.

BECAUSE we have been experimenting with different kinds of Fertilizer on different crops for over twenty years. From these actual field tests we have developed Darling's Better Fertilizers. That our efforts have been successful is proven by the fact that today large numbers of good farmers use only *Darling's Animal Base Fertilizer*.

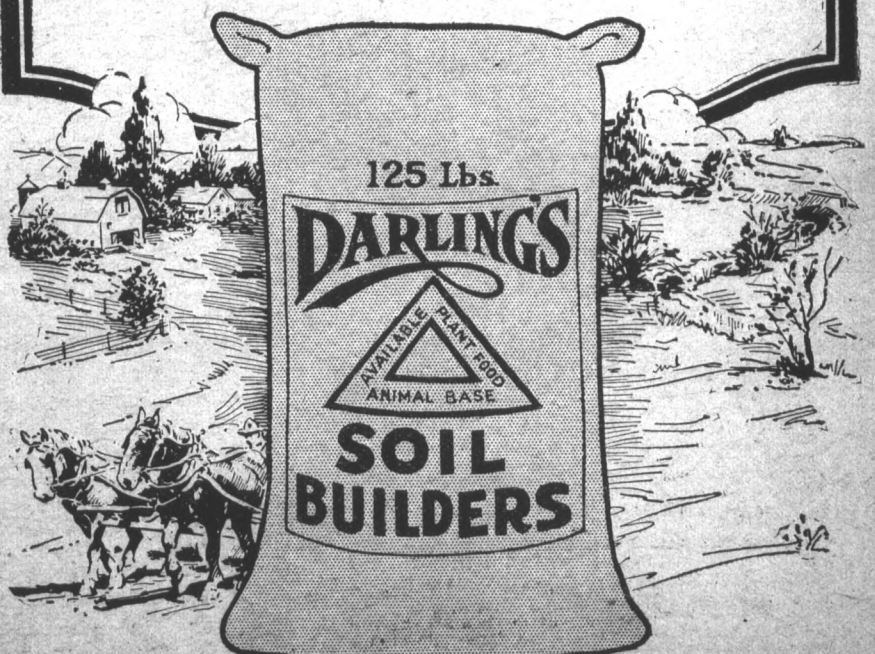
BECAUSE we are very large producers of Steamed Bone Meal which enables us to complete our list of Fertilizers, Darling's Pure Ground Bone and Half & Half always give satisfaction.

BECAUSE for over 35 years we have been producing and perfecting Better Fertilizers.

Our ideal location and special shipping facilities enable us to make prompt deliveries.

See your Darling Agent now, or write us for literature, prices and special Agency Plan.

DARLING & COMPANY
Union Stock Yards Chicago, Illinois



Please Mention The Michigan Farmer When Writing to Advertisers



Our earnings in hauling your products

THE Government does not guarantee us any income.

The rates fixed by the Interstate Commerce Commission are intended to be such as will enable the railroads as a whole to earn at least 5 $\frac{3}{4}$ % on the value of their properties. Out of this net income they must meet interest on debt, pay dividends to the stockholders and build up a surplus as required by prudent business management.

The railroads earned 3.31% in 1921, and 4.14% in 1922. This year they hope to do better. They must do better if necessary new capital is to be attracted to railroad development.

It was only during the period of Government operation that railroad net income was guaranteed. That income was based on pre-war earnings, and averaged 5 $\frac{1}{2}$ % on the value of railroad property.

If any railroad fails to earn 5 $\frac{3}{4}$ % on its investment, the Government doesn't make up the difference; and the law provides that anything earned above 6% must be equally divided with the Government.

As stated by the Interstate Commerce Commission in a recent decision, the rate provision of the Transportation Act "carries with it no guarantee", but "it is, instead, a limitation".

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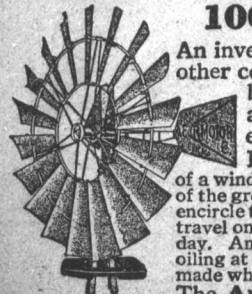
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DITCH - DRAIN - TERRACE
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4 TIMES Around the World with ONE OILING 100,000 Miles Without Stopping for Oil



An inventor who could develop an automobile, a railroad car or any other conveyance on wheels which would perform such a feat would be considered a wonder. But such is the record of regular accomplishment by the Auto-oiled Aermotor during the past eight years in pumping water.

Did you ever stop to think how many revolutions the wheel of a windmill makes? If the wheel of an Aermotor should roll along the surface of the ground at the same speed that it makes when pumping water it would encircle the world in 90 days, or would go four times around in a year. It would travel on an average 275 miles per day or about 30 miles per hour for 9 hours each day. An automobile which keeps up that pace day after day needs a thorough oiling at least once a week. Isn't it marvelous, then, that a windmill has been made which will go 50 times as long as the best automobile with one oiling?

The Auto-oiled Aermotor after 8 full years of service in every part of the world has proven its ability to run and give the most reliable service with one oiling a year. The double gears, and all moving parts, are entirely enclosed and flooded with oil all the time. It gives more service with less attention than any other piece of machinery on the farm. To get everlasting windmill satisfaction buy the Auto-oiled Aermotor, the most efficient windmill that has ever been made.

For full information write **AERMOTOR CO.** Chicago Kansas City Dallas Minneapolis Des Moines Oakland

Rural Health

By Dr. C. H. Lerrigo

TRUTH-TELLING MEDICINE.

SOME of us have been perturbed, of late, about a medicine that has been administered to certain prisoners, a "truth serum," given with the thought that under its influence the prisoners would tell the truth about the crimes with which they were charged.

This is of unusual interest, even to those who do not for a single moment contemplate a career of crime. If there is a drug which may be given to us, under the influence of which we shall yield up our most secret thoughts, we must be looking for defence or an alibi. We might be led to tell where we keep all of our money; what we really think of the lady next door; what we would do if we ever had our own way; and other incriminating things. The subject clamors for attention.

The drugs with which the marvels were supposed to be wrought is called Scopolamin. It is the same substance that is used to drug the patient into a condition in which pain is not felt in the celebrated "Twilight sleep." Its action is such that although the patient remains able to respond to questions, she no longer exercises conscious control of her functions. It was therefore supposed that a criminal might give truthful answers to such questions as might be asked, when under its influence, failing to realize that serious consequences might come as a result of his involuntary self-betrayal.

However, set your mind at rest. There is nothing to it. The instinct of self-preservation lies very strongly rooted in the human breast. Under the influence of the drug you might give correct answers to immaterial questions, but as soon as the questioner began to "get warm" around the secrets of your innermost soul you would close up as tight as a Michigan saloon. Your dulled mind would awaken to danger and you would tell things with only such accuracy as you chose to exhibit.

The principle is much the same as the one involved in hypnotism. The willingness of the victim to be used goes only so far as it is in accord with his general habits and methods of life. When the hypnotized tries to influence his subject to do things that would be contrary to the well established principles of his regular life he is balked. Even when the human frame is only acting automatically it still preserves the lines of balance that would be found in conscious effort.

After all, there is no danger. We may still have our secrets.

MOTION PREVENTS STIFFNESS.

Two weeks ago our little boy fell out of a tree and broke his arm at the elbow. We took him to a doctor who put it up in a plaster splint, but as we live fourteen miles away we have not been back since. How much attention does it need?—Mother.

You must take your boy back to the doctor at once. By this time the splint should come off and a certain amount of passive motion be begun to keep the elbow from becoming stiff. The doctor will show you how to massage the arm and what motions to make and you must see that the work is done faithfully, no matter if it does hurt at first. Fractures in children should never be immobilized for a long time. It is important to get motion as early as possible so as to save stiffness in joints and insure good

function. Do not be discouraged if you get only slight motion at first, but keep it up.

HAS NERVOUS SPELLS.

I am thirty-eight years old and have some nervous spells that are quite severe, and I can't account for them. Does the change of life come about this age, and might my nervous spells come from that?—Mrs. M. M. C.

It is quite unusual for the change of life to occur as early as thirty-eight. It is quite apt to be ten years later. I think your nervous spells must be due to some other causes. It is not a necessary part of the climacteric that a woman must have nervous spells and go through a routine of misery. Many healthy women accomplish the change of life so naturally that they are hardly conscious of its occurrence.

CURE FOR NASAL CATARRH.

Will you please tell me if there is any cure for nasal catarrh?—O. R.

If you mean is there a medicine for catarrh that will cure every case, I answer, "No." Catarrh can be cured but it means more than medicine. It may involve a little surgical work to make good breathing possible. It means correct habits of living. It means keeping the skin of the whole body in good condition. One of the very best ways to cure catarrh is to keep the skin active by a regular daily bath. When possible this bath should be taken in a warm room, but using cold water. It should be followed by a brisk rub with a rough towel. This invigorates all the organs, strengthens resistance to "colds" and helps to vanquish catarrh.

INNOCENT CONTRACTION OF SYPHILIS.

I once heard a doctor say that syphilis could be contracted innocently and that all who have active syphilis should be put in colonies by themselves, just the same as lepers. His thought was that syphilis is worse than leprosy, because the former disease is often inherited and leprosy is not. Was the doctor's statement correct?—R. G. D.

The doctor was correct in a large measure. But it is not necessary to shut the people having syphilis in a colony to themselves. The disease is only contagious in certain stages and then only by intimate contact, such as kissing, or using the same glasses or dishes. If all cases of syphilis are reported to the proper health officer they can readily be rendered harmless. The dangerous cases are those not recognized or wilfully hidden.

HAIR TROUBLE.

My husband has Alopecia Areata and would like to know cure, details, and cause of it, how long it takes before the hair comes in after spots appear?—His Wife.

I am sorry that I cannot be very encouraging about alopecia areata. It is a condition in which certain sharply defined particles of the scalp become bald, although the hair on the rest of the head may be as good as ever. Its origin is usually in some disease of the nervous system. The outcome depends entirely on the way in which the patient responds to treatment and is always better if the patient is of a cheerful disposition, cooperates with his doctor and refuses to be worried. It is not a disease of any definite duration, so no one can set a time for its cure.

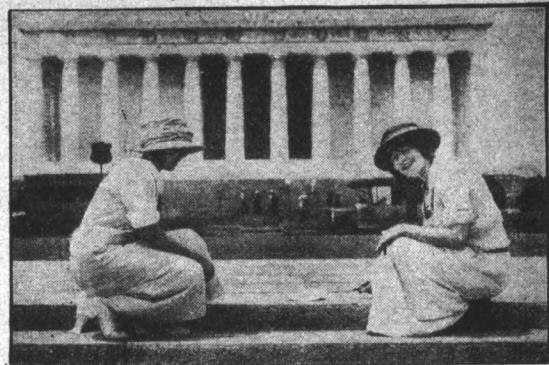
WORLD EVENTS IN PICTURES



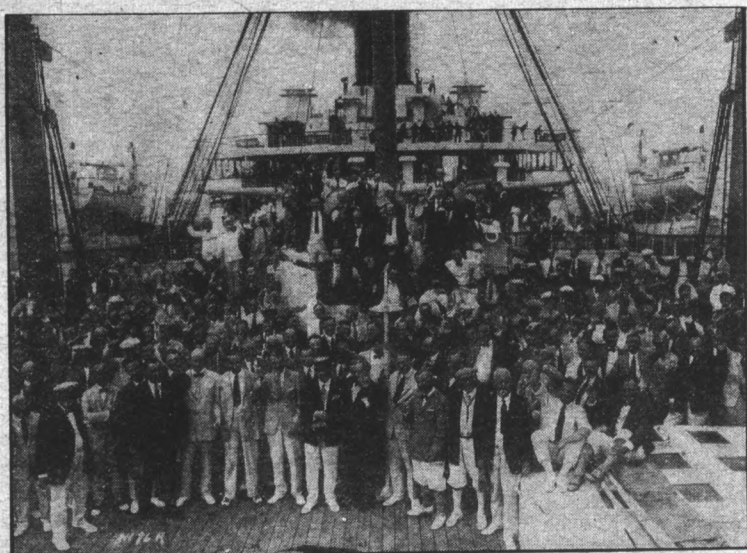
Bulgarian military governor of Sophia is being carried on the shoulders of a crowd in a revolutionary demonstration.



Jane Adams, recognized as America's greatest woman, is seriously ill in Japan.



Washington's claim as hottest place north of Mason-Dixon line was established by cooking eggs on steps of the Lincoln Memorial.



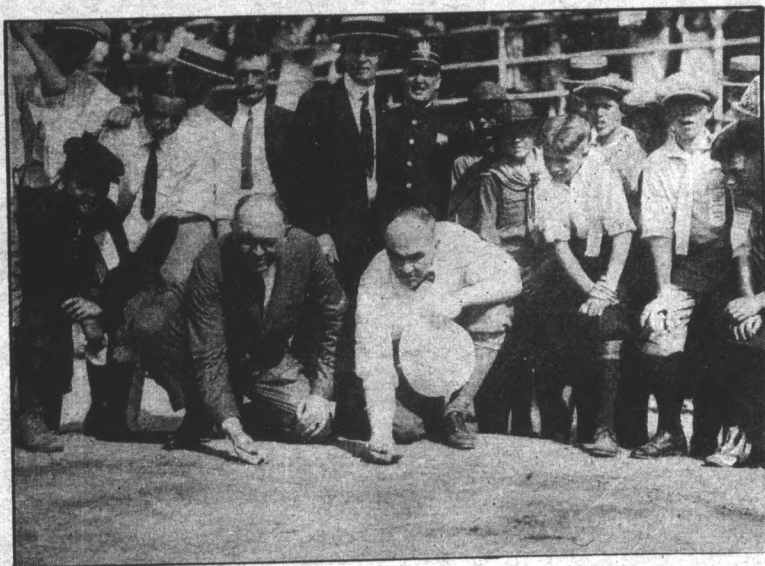
Group of guests on the giant S. S. Leviathan, which established a new world record when it covered 2,209 miles in the current of the Gulf stream, making 28.10 knots per hour.



When a two-car elevated train left the track on a sharp curve in Brooklyn, N. Y., it plunged sixty feet to the street, killing nine persons and injuring a score or more.



These young ladies are seeing "America first" by a different method than their grandmothers.



Atlantic City's mayor "knuckles down" for the first shot in the national marble tournament, in which boys from all over the United States are taking part.



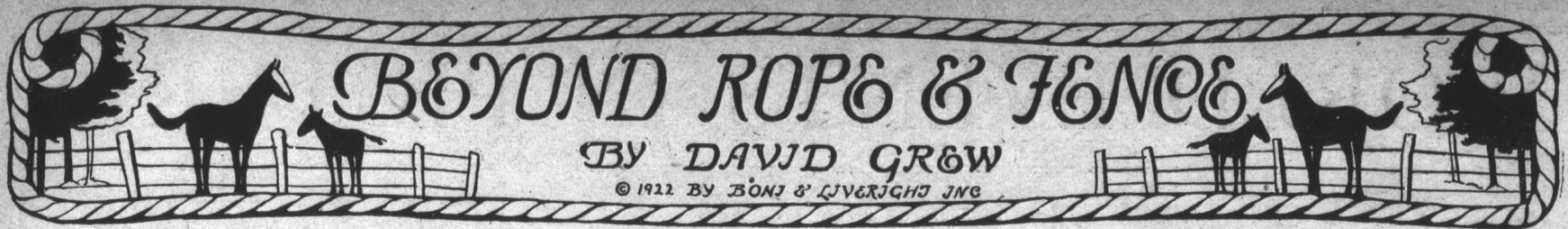
Although she is an expert golf player, Maureen Orcutt's brother is undoubtedly a little nervous.



At Cheyenne, Wyoming, Mrs. Warren Harding was very cordially greeted by cow-girls in costume and on horse-back, and presented with several bouquets of flowers.



Travelers in Germany now see many former German society belles pitching hay, hoeing potatoes, and doing other farm work that the present conditions in their native country demand.



JUST when Dora was resigning herself to the irksome but unavoidable duty of carrying them about in the saddle; just when she had learned in this state of her bondage to get from the plains she would cover, carrying them, that finer sustenance which the soul requires; just when she had learned to get all the happiness that it is possible to get in a condition of physical encumbrance and spiritual domination by an unshakable and hateful will, there came a change. The middle summer went by and the winds that blew golden waves over oceans of ripe grain ushered in the harvest season.

When heavy harness was placed upon her body, Queen showed her displeasure but curbed her impulses. The collar and the hames choked and oppressed her and the blinders on her bridle tormented and frightened her. But for something they did which they did not do for her sake at all, Queen would have fought as hard as she had fought when the saddle was first placed upon her. They had led her out and tied her to a wagon wheel between two of three horses and she found herself next to the little bay mare. A few moments of sniffing noses and Queen would have endured almost anything rather than be taken away from her old friend again. She had been harnessed first and Queen was willing to tolerate anything so long as she could be there with her; and the farmer wondered at the constant whinnying that went on between the two. All the while, the big horse on the other side of Queen and the big horse on the other side of the bay mare stood with their heads at the same level, motionless, like the mere machines that they were, awaiting orders to move.

They were hitched to a binder and ordered to move and Queen's nerves tingled with the strangeness of the situation. Every move she made resulted in some disagreeable pull and the feeling of being trapped, of being held in on every side was fast arousing her resentment and the slumbering desire to rebel. But not only did the weight of the thing they were dragging subdue that desire, but the horses on both sides of her seemed to beat into her soul, with the beating of their hoofs, the utter hopelessness of showing resentment or attempting to rebel.

When they reached the wheat fields, the thing grew many times heavier, many times harder to pull and the deafening noise it made was distracting to Queen. But the morning was delightful; the creatures of her own kind beside her gave her the feeling

of having companionship; and though her muscles found pulling most arduous, they were still fresh from a night's rest. When the morning wore along toward noon her strength was well nigh exhausted and the struggle to keep from going under, stimulated by the whip, suffused her soul with agony. The day was hot and her sides dripped with perspiration. The new harness rubbed her skin in a thousand

iron, smarted with the touch of perspiration, and the hard collar choked her unmercifully. The weight of the harness seemed to be pressing her to the ground.

Her water she drank at once in great draughts, but her food she did not touch for some time and though she stood next to the little bay mare all through the noon-hour she did not turn to her once. Her misery was

soresl work-horse and other work-horses in Queen's experience, which she had so often wondered at in her limited way, now came down like a sort of mask upon Queen's head and put a strange dullness into her eyes.

BUT with the end of the harvest period came autumn plowing. Had that been her first experience she would hardly have lived through it. It was not only harder work to drag the plow, that so often struck the rocks in its path and fairly pulled them from their feet, but the dust rising in clouds from under them added to labor and pain the last ounce of endurable agony. Life to Queen, in its endless repetition of toil and pain and abysmal discomfort, relieved periodically by a few hours' rest, was not only without purpose but without excuse. Queen did not reason her way to such a conclusion, she just felt; and in this feeling there was not even the light of illusionary hope. The knowledge that a given labor will end at a certain time, gave the hope and the courage to her master which the strange ruling of life denied to Queen.

So Queen lived through the days which she could not know were ever to end, enduring labor without compensation, getting food and water that was not as good as that which the wilds had lavishly bestowed upon her. What it was to lead to, she did not know. She could not even ask. Death was but a nameless fear and the relief of death was beyond her understanding. The images of those she had known and loved in her happier past came back often in dozing moments, coming into her dreamy vision as imperceptibly as the evening comes into the day; and in going they left in her soul something that resembled hope. That was all that life offered her and it was as uncertain as were the whims of the creatures who dominated and overshadowed her existence; yet never did she reach a hilltop from which she caught a glimpse of the open prairie spaces but the hope that freedom would come to her expressed itself like a hazy light in the dark uncertainty that engulfed her.

THE reaping season passed and threshing time arrived. The farmer was plowing his fields for the next year's seeding because he had finished reaping before most of the other farmers had finished. He worked himself as hard as he worked his "critters." That was his reputation among those who did not have anything more serious against him, but they were few.

FRESH AIR

By Al. Rice

From out the dawn that breaks the East
There comes to us a glorious feast;
Each day, each hour, each breath we draw
Is governed by a common law.

Fresh air, alone, will life impart
To weakened tissues, lungs and heart,
It's good for aches and pains and groans,
For skin and hair, and even bones.

You need no fan where it is found,
No wheel to turn it 'round and 'round.

Fresh air is never known to "fake,"
Nor fear ought else its place will take.

No doctor's pills we pay to use
Will half the life of it infuse;

No remedy nor surgeon's knife
Without fresh air can give you life.

If it was sold by pint or quart
We'd give a dollar for a "snort."

Because fresh air is never sold
We do not know its worth in gold.

places and made her very bones ache. The dust of the fields and the particles of broken straw filled the air she breathed and settled down in her nose and eyes.

WHEN her aching muscles began to wear out and the pain she felt frightened her, she tried to lag a bit but the watchful eye of her owner soon discovered her lagging and there was a threatening cry of "Dora!" and the long whip came down upon her haunches without mercy.

Noon came at last. Queen limped on her way back home, moving along as if the other horses were carrying her, seeing nothing before her, feeling only her agony of soul and body. Painful sores, under rubbing leather and

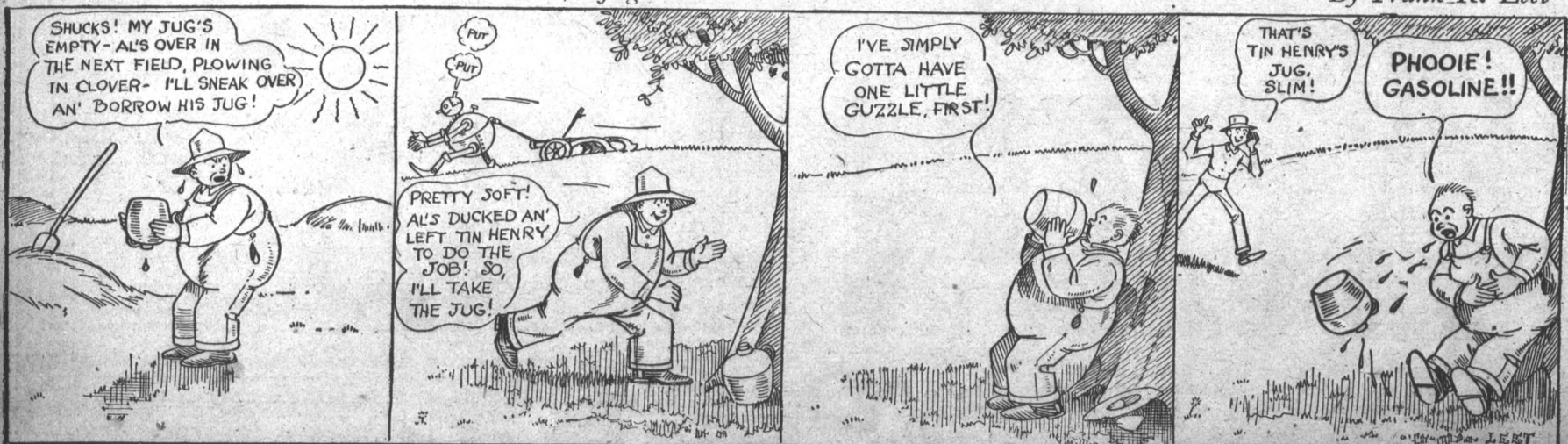
overwhelming and in its salty waves she was alone.

Though she had not eaten a full meal, she went back to work just the same and a thousand times the whip came down upon her back adding pain as a stimulant, as if she had not experienced pain enough. When at last the seemingly endless day came to its close and the harness was removed, leaving red bloody sores with rims of black dirt exposed, Queen lay down at the feet of the little bay mare and with her eyes closed, lay as if in a stupor for half the night before she rose to feed her hunger.

Yet when the first few unspeakably torturous days went by, she seemed to have become more able to endure the torment. The stolidity about the old

AL ACRES—There's A Kick in Tin Henry's jug.

By Frank R. Leet



Every fall he, like most of the other homesteaders, left his farm and joined a threshing crew some twenty miles south, remaining with it until winter set in and the wheat of the last farmer of their circuit had been threshed.

Came the last hot spell of the year. Cold winds and rain and cloud of early autumn gave way to a short Indian summer, so warm that insects long too stop to appear more than for a few hours during the warmest part of each day, came buzzing back to life as if it were springtime. Nose-flies began to bother the horses and the dirty, old, wire-net nose-baskets were brought back into use.

The sunlit air sponged up the aroma that oozed from the wet earth, and breathing it filled Dora with old longing. Sensations of loping free over the unfenced earth, like spirits, danced enticingly before her yearning eyes. Birds flitting through the sweet air sang with the enthusiasm of spring and urged her to resist the forces of evil that fettered her. But the harness on her back was heavy. The traces that bound her to the plow and the

lines that held her to the others who had forgotten what freedom is, were inexorable as the will of the man, whose whip was his only argument.

They had been dragging the unyielding plow for a few hours on the first of these delightful mornings, when, looking up as they turned at the end of a furrow, Dora saw in the distant south a horse and buggy, coming at a good pace. All the way down that furrow she saw the buggy steadily grow larger and clearer. Coming up on the next furrow she could see nothing and then as she turned once more she saw White-black coming. She stopped for just a second and the whip came down with a stinging lash. She sprang forward and pulled along with the rest; but her head was higher than it had been for some time and from her trembling lips came nervous whinnies which White-black did not hear. By the time the two moving objects met, there was a long, melodious and very welcome "whoa," and the four horses stopped, facing the one horse in the buggy.

(Continued next week).

Gossip from Cherry Hill

By O. W. B.

THINGS seem to be taking on new life at Cherry Hill, as indicated in this week's letter from Henry to his uncle. No matter what line of work is being followed the introduction of something worth while, but a little different, always meets opposition from those who should support the movement.

Cherry Hill

DEAR UNCLE DAVID:

Received your letter several days ago and was mighty glad to hear from you again. Lots of water has run down the creek since I last wrote you.

We organized a Community Betterment Club with the following ideals: Better soil, better live stock, better tools, better homes, better social life and a better church (not churches). We aim to have one church in this community functioning for the whole community.

A young feller we had up here from the College put the idea into our bonnet. It sure was a good idea and lots of the folks wat never thought of anything else but sleep, eat, feed the hogs, and milk the cows now is thinking a little about their souls. Pete thought it would sound better to call it Community Improvement Association for he said people had the wrong idea here about the word Club. Said that most of them thought it meant some sort of a weapon that organizations held over people to make them do what the organization wanted.

Well he ain't so far off at that for some of these Highbrow organizations we hear tooted up so much seem to be for the purpose of somebody showing somebody else that he can belong to something that somebody else can't, but that isn't our idea of the Club here. Everybody is eligible, men, women, children and real-estate-agents.

Well when our old minister heard about our plans for a Community Church he jest naturally threw a fit and thought as well as told his friends we was all going to the bowwows specially if we didn't tie up to some Denomination, particular his. Everything was all wrong.

Reminds me of the preacher wat got a new car and he said to one of his parishioners shortly after he got it, "I never knew till I got this car that there was so much profanity used by people." "Why how is that?" asked the parishoner, "do you hear much of it on the road?" "Do I?" he replies, "Why nearly everybody I bump into swears something awful."

Well our old minister was so wrought up over our plans that he up

an referred the situation to the Minister's Association and they talked about it a lot and then decided to refer it to the Comity Committee. Pete called it the Comedy Committee and I guess if you had heard the proceedings of the Committee when they sat on the question, Comedy wouldn't haf describe them. They reviewed the situation from a to z and made a lot of recommendations wat won't be received here with much consideration cause we know perty well what we need now without bein' told by fellers who has their eyes on themselves and their own welfare.

You see Uncle they are a lot like that fellow who went into the country to get atmosphere for a story he was writing. When somebody asked him how he liked it he said, "Disappointed me. Couldn't find a farmer who had a horse named Dobbin and never heard one of them say "By Heck."

Well this is about all Uncle this time. I'll keep you posted on further developments in next letter. Don't git out in the sun too much these hot days. You're gettin along in years and better be careful for old folks can't stand as much as we younger bucks.

But, Second that, that's a unkind remark and I guess I'll take it back. It's like the minister we had on Decoration day who offered the prayer at the service. He says, speakin' to the Lord, "Oh Lord bless the Grand Army of the Republic, you know their ranks is growin' thin and they won't be with us long, etc." Jest as tho the Good Lord had to be told that.

Well, Old Josh Hartman what fit and bled at Gettysburg an lost an arm at some other battle, he was the last G. A. R. man there and about the time the minister got that fur in his prayer Josh got up and stumped out with his cane madder'n a hornet and he growls something at the Reception Committee at the door which was American Legion men, that, "He don't want himself or the Lord to be tarnally reminded bout him gittin old and some other things I better not put in black and white for fear of the law."

But say Uncle David if any preacher ever takes liberties like that when I git to be an ole veteran I'm afeard I won't walk out but take off my coat and give him a lesson. Makes me mad when I think of it. Hoping you are the same, Vera sends her love and says to tell you to shore an pay us a visit soon. The broilers are about ready now.

As ever your nephew

HENRY O'HOPE



What will your children eat during the hot vacation days?

Too much meat in summer overheats the blood; too much starchy food often interferes with digestion.

Children must have plenty of energy-producing food, but it must be wisely chosen.

Grape-Nuts is a safe and satisfying summer food. It supplies the energizing nutriment of wheat and barley, together with the natural mineral elements which many foods lack.

Grape-Nuts with milk or cream is a complete food, crisp and delicious, easily digested and quickly assimilated.

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Your grocer has interesting details of our offer of over \$7500.00 for Grape-Nuts Recipes. Ask him about it TODAY; or write to Recipe Dept., Postum Cereal Co., Inc., Battle Creek, Mich.

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FRUIT BASKETS.

These are made for grocers, fruit growers, and Road-side trade for tomatoes, peaches, plums, grapes, etc. They greatly increase sales and profits and supply a convenient measure. Prices are as follows, f. o. b. cars Lansing.

	100	250	1000
1 qt. size	\$1.25	\$3.00	\$11.50
2 qt. size	1.50	3.75	14.50
3 qt. size	2.00	4.75	18.00

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Rates per day \$2 and up
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Common Canning Troubles and How to Overcome Them

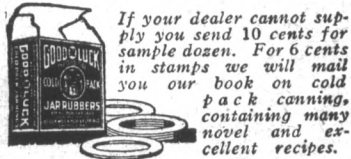
Practically all canning troubles can be traced to two sources—imperfect sterilization or poor sealing.

Happily both of these can be easily remedied. Remember that heat sufficient to kill all minute organisms *must reach every part* of a jar's contents. Do not pack corn or other vegetables too closely. Be sure to allow the full time called for by sterilization. If you can by the open kettle method be sure that jars and rubbers are boiled and that the food is at the boiling point when you pack it.

Seal all jars with **NEW GOOD LUCK Rubbers** so that no germ-laden air can get to the food within.

GOOD LUCK JAR RUBBERS

have been tested and approved for all methods of canning by the experts of the Home Canners' Association of America. They come packed with the following leading brands of fruit jars: Atlas E-Z Seal, Atlas Good Luck, Schram Ever Seal, Schram Acme.



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27 West Elizabeth St. Detroit, Mich.



Woman's Interests



Dishwashing Made Easy

By Marian Rogers,

Extension Specialist, M. A. C.

DID you ever stop to think of the time the average housewife has to spend in washing dishes, three times a day, twenty-one times a week, over a thousand times a year? A farm housewife with milk things to care for, often averages two hours a day in washing dishes, if she should attempt to do a year's dishes at one time it would take her over sixty days, even though she worked twelve hours each day without stopping to rest.

How can these hours of constantly repeated work be shortened?

Helpful Equipment is Essential.

A timely suggestion has usually been to get the equipment which makes the work the easiest.

A wheel tray saves perhaps the most steps. First, it can be used in setting the table. After the meal, all of the dishes may be stacked on it and be carried to the kitchen in one trip instead of the usual five or six. Many

women. If the dishes are stacked on a table, or better, on the right-hand drain board, they may be washed and placed at the left without awkward reaching across, or changing hands.

LOWERING SUGAR CONSUMPTION.

DURING canning time and fruit time my slogan is, "Take it with a Pinch of Salt," but literally, not figuratively; the salt saves sugar.

When cooking fruit for canning or to serve as sauce at meals for the day, I add a pinch of salt, not enough to give a salty taste, however, and I always dust a little salt over the fruit in a pie before adding sugar, and over the fresh fruit I intend to serve at any meal. Until one has tried it it is hard



Out Under God's Canopy these Women Are Greatly Interested in Studying Methods for Making Dishwashing Easier.

types of inexpensive trays may be purchased, or very satisfactory ones can be made by the home carpenter.

If an old-fashioned wash stand, with handles at each end, and a shelf underneath is among the family possessions, it can easily be fitted with small wheels or castors. The small drawer makes a splendid place for silverware. Where a wheeled tray is not available a fair-sized hand-tray can be used to very good advantage.

On fine china, or where children are scraping the dishes, a rubber dish scraper is invaluable. Every bit of food may be removed from the plate with the fewest possible motions. For cleaning the cream pan it has no equal. Some women like best the plan of rinsing off the food particles under running water in the sink. Where this is done a fine sink strainer should be used to prevent the food particles from getting into the drain.

A small garbage pail or a pan with a good cover is most convenient for the waste food.

Plenty of water, both hot and cold, is another necessity that helps greatly in making dishwashing easy. If this can be running water at the sink it is most convenient. If not, three or four trips to the stove must be made for hot water during the dish washing.

The sink, when equipped with drain boards, makes the most practical place for washing dishes. A place for stacking dishes on one side, and for draining them on the other, increases the value of the sink, so many are equipped with two drain boards. If there is room for only one, the left-hand board is used most by the majority of

to believe the difference it makes in the amount of sugar required.

In canning rhubarb or pieplant, I wash stems well cut up without paring, pack into cans then turn cold water slowly into cans letting it overflow until no bubbles come to the surface, then seal. The neighbors used same process and we certainly enjoy the pies during winter; drain off water and use as fresh pieplant.

Sugar-saving Cake.

Half cup sugar
One egg
One teaspoon cinnamon
One teaspoon soda
Half cup molasses
Half cup sour milk
Two tablespoons shortening (butter or lard)
One and one-half cups flour.
Hot water can be used instead of sour milk.

Bake in two layers. Use jelly or marmalade for filling and spread thinly on top, then sprinkle with shredded cocoanut.

Makes pretty and good flavored cake.—Mrs. J. C.

PASS IT ON.

To work buttonholes smoothly and quickly, mark the size of the buttonhole on the material with a soft pencil. After it is worked, cut open with a sharp penknife. This is especially helpful in working on serge or material that ravel easily.—C. D.

When baking cake grease your pans and then flour good. This will prevent the cake from sticking and is good for making cup cakes.—M. M.

I find that an egg, well beaten, will make a good hair shampoo. Rub it into your scalp thoroughly, and then wash the hair as usual.—M. M.

For mending runs in silk hose, try a fine crochet needle. Insert the hook in the loop at the end of the run, pick up the next thread above and draw through and continue working upward exactly as if making a chain stitch in crocheting. Fasten the remaining loop at the top of the run with a bit of fine darning cotton. Hose mended in this manner look like new.—M. A. P.

A HOME-MAKER'S EXPERIENCES.

WE have a number of black walnuts and I find that nut bread is very good, using the same amount of the black walnuts as I do the English ones. Friends say they like the bread better than with the English nuts. By making it a little sweet the children like it better than a cake.

In making my cottage cheese, if just a little turned I set it in a pan of hot water. But if clabbered a little I put it on the back of the stove or near some kettle I am cooking in, (mine is an oil stove). I watch the whey and keep turning my dish of milk until all the whey is on top. I then put in cheesecloth sack and hang out doors, but not in the sun.—Mrs. M. W.

A HELP IN THE CANNING SEASON.

THE cold-pack method is the only satisfactory way of canning vegetables, and is also excellent for fruit. The various steps in this method are explained in our new canning bulletin.

It also explains how to can without sugar, the causes of flat-sour, and how to avoid it, and other canning difficulties.

For a copy of this bulletin send a stamped, self-addressed envelope to Martha Cole, Michigan Farmer, Desk A. Detroit, Michigan.

DON'T WASTE MELTED ICE CREAM.

OCCASIONALLY because of poor packing, or the lack of a sufficient amount of ice, some of the ice cream planned for the Sunday dinner or lunch melts. Do not throw this away. It can be transformed into a very delicious dessert, much like Bavarian cream.

Put the melted cream into a double boiler or set in a pan of hot water, and when luke-warm add one teaspoon of powdered gelatine, previously softened in a little cold water and dissolved in hot water, to each cup of melted cream. When thoroughly mixed, pour into wet moulds and set aside to become firm. When only partially cool, add fresh berries, diced fruit or nuts. Service with dip of whipped cream.

To make grape gelatine for lunch dissolve one-half box of gelatine in one cup of cold grape juice, let soften for five minutes. Put three cups of the grape juice in a sauce pan and add one cup of sugar, bring to a boil, pour over the softened gelatine. Cool and serve with whipped cream. Any fruit juice may be used.

If unsalted fat is used in making pastry, salt should be added in the proportion of one-quarter teaspoonful of salt to one cup of flour.

Planning the Layette

MY three young sons have necessitated my obtaining considerable miscellaneous information concerning a layette.

I have always preferred a simple, practical outfit, as it is less wearing on the mother to prepare it, and is so quickly outgrown.

The money saved this way can be much more advantageously used for a skilful doctor and nurse, a two weeks' complete rest for the mother, and the advice of a food specialist for the baby's feeding if the mother is unable to successfully feed her baby. The baby's life and future health are too important to neglect giving him the best possible start.

Three of each of the following articles are necessary, four would be safer in case daily washing were delayed.

Flannel bands; shirts; pinning blankets; flannel skirts, "Gertrude" style; wrappers or nightgowns buttoning in black; stockings; booties; warm jackets or sweaters; three dozen diapers, twenty-seven inches square, will be required; so will nainsook skirts and dresses; a cap; cloak; blankets; pads, and a small hot-water bottle.

Some points in baby's care I have been most watchful of.

No pacifiers or soothing syrups. Find the cause of its discomfort; warm water enemas offer wonderful relief for gas pain.

See that baby has at least one good bowel movement each day. The same rule for nursing mothers.

Regular feeding hours for baby. No excitement and unnecessary handling.

In changing and dressing baby I put him on a softly padded card table, slipping his skirts and dress up over his feet.

As scrupulous cleanliness as possible in the personal care of the baby; handling utensils for his feeding, and particularly the hands of whoever cares for him.—Mrs. G. C.

WATERPROOFING A TENT.

OF all the various ways of waterproofing a tent, the one most successful in my camping experiences

was the one we used last year before we started on our trip to Washington. The tent we were to use had served our camping purposes for a number of seasons, and we decided something must be done to it, if it were to see us through another trip.

I purchased one pound each of sugar of lead and alum. After thoroughly mixing them, I dissolved them in about one gallon of tepid water. In this solution, the tent was soaked for about an hour and then hung up to

Plans for Picnic Lunches

PICNICS are in season, big ones, medium ones, and small ones. But the zest of the occasion is lost if the lunch to satisfy the fresh air appetites is lacking.

The planning of that lunch is no small problem and we are ever anxious to exchange ideas. For the best letter giving suggestions and recipes for preparing a picnic lunch, we will give an aluminum preserving kettle. The second prize will be an aluminum serving tray, while the third, fourth and fifth prizes will be an aluminum saucepan.

Address your letters to Martha Cole, Michigan Farmer, Desk A, Detroit, Mich., before July 27.

dry. This process will make a tent thoroughly waterproof, mildew-proof, and even to a certain extent fireproof.—F. L.

I save yards of elastic as well as a lot of work every year by sewing a hook and eye on each end of the elastic bands used in bloomers. These may be removed with each washing and one pair of elastics will do several pairs of bloomers. Finish the opening for the elastic like a button hole, and insert a safety pin in the eye when putting in the bands.—Mrs. N. L.



(Use this department to help solve your Household Problems. Address your letters to Martha Cole, Michigan Farmer, Detroit, Michigan.)

WANTS ADDRESS.

Would some of the kind readers of the Michigan Farmer give me the address of someone who handbeads dresses? It certainly would be appreciated by a lonely one.—Miss Chloe Lemeron, Harris, Mich., Box 46.

MEAT DISHES FOR THE AID DINER.

At our Aid meeting, I am detailed to bring a meat loaf, and as I have no recipe, I thought you could probably help me out. I would like a recipe that would serve about eight persons. Would you also send me a recipe for making salmon loaf?—Mrs. H. M.

For meat loaf, grind the steak or cut of meat which you plan to use. About one and one-half or two pounds would be sufficient for eight people. To the ground meat, add one cup of bread crumbs into which has been stirred salt, pepper and butter the size of an egg. Add a cup of milk with an egg beaten into it. Mix all together and press firmly into a loaf. Place in a buttered pan and roast for forty-five minutes, basting three or four times.

For salmon loaf, beat two eggs, and to them add one cup of bread crumbs,

two tablespoons of melted butter and one can of salmon, saving the liquor. Add pepper and salt to taste, and after thoroughly mixing with a fork, press into loaf and steam in a buttered dish for one hour. This loaf is also appetizing served with the following sauce: One egg beaten lightly, two tablespoons melted butter, one tablespoon corn starch. After mixing, stir in one cup of scalded milk, cook a moment and add the liquor. Pour this over the loaf and serve. This recipe may also be baked instead of steamed if one-half cup of milk is added.

ICE CREAM SODA AT HOME.

I am anxious to know how farm women can make ice cream sodas at home. What water must be purchased for the "fizz," as the children call it?—Mrs. M. J. T.

The making of ice cream sodas at home is not very successful as one does not have the apparatus needed. It is possible to buy the charged water used also in making cool summer drinks, at a drug store, and add the flavoring by stirring in the syrup and fruit with an egg beater, and then adding this to the ice cream. Much of the flavor is lost, however, by not having the charged water under pressure.



"Make Me a Child Again, Just for Tonight"

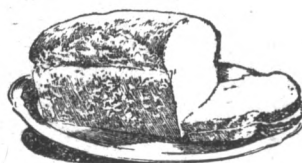
Can't you remember how wonderful a slice of bread tasted when you were a child? Maybe it was piled high with brown sugar! An in-between meal smack! Perhaps it was swimming in fresh maple syrup—the kind with the flavor running clear back to the tree.

Even now bread tastes just as good—if you use the Lily White flour in baking. Even when you were a child with your bread and butter after school, Lily White was satisfying thousands of the best cooks who knew what the flour would do.

And through all these years Lily White quality has never varied. Always high grade, always regarded as the very best for all baking Lily White today is a standard household necessity in many thousands of homes.

Lily White

"The Flour the Best Cooks Use"



Our Guarantee

We Guarantee you will like Lily White Flour, "the flour the best cooks use"; better than any flour you ever used for every requirement of home baking. If for any reason whatsoever you do not, your dealer will refund the purchase price. He is so instructed.

HOW TO MAKE MILK BREAD

Three quarts of Lily White Flour, 3 pints of lukewarm milk, 1 cake of Fleischmann's yeast. Set in morning in warm place and rise until light. 3 teaspoons of salt, 1 tablespoon of sugar, 1 tablespoon of melted butter or lard. Mix with Lily White Flour until stiff, or from 20 to 25 minutes. Set in warm place and let rise until light. Make in loaves and work each loaf from six to eight minutes. Set in warm place until light. When light take warm milk and sugar and put over top. Keep good fire and bake slow one hour and when baked wash over again to make nice smooth brown crust.

Lily White will Surprise You—Delightfully.

VALLEY CITY MILLING COMPANY
GRAND RAPIDS, MICHIGAN
"Millers for Sixty Years"

Michigan Farmer Pattern Service

All orders for patterns and catalogs should be addressed to Pattern Department, Michigan Farmer, Detroit, Mich., and be sure to state the size wanted.

Send fifteen cents either in silver or stamps for our up-to-date spring and summer catalog, showing color plates, and containing 500 designs of ladies', misses' and children's patterns, a concise and comprehensive article on dressmaking, also some points for the needle (illustrating thirty of the various, simple stitches), all valuable hints to the home dressmaker.

No. 4393-4418—A Smart Suit Style. Jacket 4393 cut in four sizes, 14, 16, 18 and 20 years. Skirt 4418 cut in seven sizes, 16, 18 and 20 years for misses, and 31, 33, 35 and 37 inches waist measure for ladies. To make the suit for an 18-year size will require 4½ yards of 40-inch material. The width of the skirt at the foot is about two yards. Two separate patterns, 12c for each pattern.

No. 4402—Misses' Dress. Cut in three sizes, 16, 18 and 20 years. An 18-year size requires 4¼ yards of 32-inch material. The width at the foot is 2¼ yards. Price 12c.



No. 4410—Ladies' Dress. Cut in seven sizes, 34, 36, 38, 40, 42, 44 and 46 inches bust measure. A 38-inch size requires 4½ yards of 40-inch material. The width at the foot is 2¼ yards. Price 12c.

No. 4416—Child's Dress. Cut in four sizes, 4, 6, 8 and 10 years. A six-year size requires 2¼ yards of 27-inch material. Price 12c.



No. 4409—Sleeveless Dress with Guimpe. Cut in six sizes, 34, 36, 38, 40, 42 and 44 inches bust measure. A 38-inch size requires four yards of 40-inch material. The guimpe requires 1½ yards of 36-inch material. Price 12c.

No. 4399—Boys' Play Suit. Cut in four sizes, 2, 4, 6 and 8 years. A six-year size requires 2½ yards of 27-inch material. Price 12c.



What the Postman Brought

Letters from Pals for Our Correspondence Corner

Dear Uncle Frank:

My, o' me! What weather. But maybe I had not ought to complain, 'cause we sure needed rain. Besides, if it had not rained today I couldn't have written. But since it did my folks went to town and I'm here alone with the children. Some task. I mean taking care of the children.

I took the baby up stairs to bed but he didn't go to sleep so I had to entertain him. I got out my boxes and dolls and—now, don't laugh—but he went to sleep with my smallest doll. He is the first boy I ever saw that took to dolls. Maybe you think I shouldn't play with dolls, but I do. I sew for the little girl's dolls, and also the neighbor girls' dolls. It is lots of fun. Just try it sometime.

I don't think girls ought to wear knickers. Dresses were made for them. If a boy went down the street with a dress on, wouldn't women and girls think there was something wrong under his hat? I would.

I would like to see your picture as you look now. I think most of the cousins would, too.

Don't you think it would be nice to have each one of the cousins tell how

ger Scholarship in Isabella county. I am having it extended and am going to Saginaw year after next. I expect to take a commercial course.

Well, I must close and let the other boys and girls have room.

Good-bye. I hope to come again. Ruth McShea, Rosebush, Mich., R. 2.

Congratulations on your good scholarship. I hope you will keep up your good school work. Sure, you may come again.

Dear Uncle Frank:

I would like to join the Merry Circle. May I? I will tell you why I like the farm life. On the farm you can go to the woods and get flowers, nice fresh air, hear the birds sing, chase after the cows and chickens, feed the chickens, and have the farm and yard to wander in.

In the city or town you can't do anything like that.

I have for pets a dog named Trixy, two cats, five kittens, two pigs, one

calf, and a bird. I have one sister named Arlene.

I will close with a riddle. As I was going to St. Ives I met a man with seven wives. Each wife had a kid, each kid had a sack, each sack had a kitten. How many were going to St. Ives? I hope my letter does not go to the waste paper basket. Lorene Copeland, Sherwood, Mich.

We will be glad to have you in our Merry Circle. You must first answer a contest correctly and neatly to get a Merry Circle button and membership card. I agree with you about the farm. It is a fine place to live.

Dear Uncle Frank:

My brother and I have been trying to get the beets thinned before the Fourth. Guess we won't though. There has been plenty of rain. I started to write you a letter a year ago—don't you think it took me a long time to write it? I had an Uncle Frank but

he was killed in the war.

I am, or will be, a senior in high school next term. My big brother graduated this term and is going to college.

Our schoolhouse burned a year ago last April and since then we have been attending church regularly every day.

I think the new school building will be ready for us by next fall. Gee, but it was hard trying to study in that church when there were three sitting in a seat.

I do believe the teachers had a hard time attempting to teach us under such conditions. Of course, it was a hard thing for us to sit still and study like we do in church, every day, at that. There are no girls' or boys' clubs around here. I wish there were.

Hope you'll have a good time on the Fourth. Your niece, (if accepted), Anna Seidel, Coleman, Mich.

It certainly takes you a long time to



Drawn by Wanda Chichy.

they are going to spend their vacation?

Now, dear waste basket, if Uncle Frank doesn't get this letter, will you please tell him about the suggestion for vacations?

Your niece, Mary Ethel Conner.

Another girl who needs rain to write. I hope we have lots of rain this summer. No, I don't think I'll try making dolls' dresses. I look the same as I did when I had the other picture taken—with two eyes.

Dear Uncle Frank:

Well, I suppose it is three times and out, as this is my third letter. The waste paper basket must have my other two. I think the motto, Work to Win, is a good one.

Say, Uncle Frank, you ought to see our dog. He will shake hands and lie down and roll over when we tell him to. We have a little calf and he plays with it most of the time. He opens the door in the winter time.

Well, as my letter is getting long, will close. Your niece, Grace Lank, Leslie, Mich.

You have some dog. I, too, think "Work to Win" a good thing to follow.

Dear Uncle Frank:

May I enter your Merry Circle? I have tried in several of the contests but never won any prize. I like the Read and Win contests the best.

I graduated from the eighth grade this month. I am going to the Mt. Pleasant High School this fall. My average for the state examination was ninety-three. I received the Bliss Al-

Some Youthful Experiences

By our Readers

By Violet Kimball, Reed City, Mich.

I AWOKE with a startled scream and sat bolt upright. Incessant lightning played about my room, making every object into a queer and fantastic shape. I could discern two ghastly figures at my window, while a dull pounding came to my ears whenever the boom of thunder and snapping and cracking of lightning abated. The wind, coming in sudden, powerful gusts, seemed about to lift the very house from its foundation.

Mother's reassuring voice came to me from the window, where she and Dad were endeavoring to tack an old carpet to replace the glass, blown out by a sudden, whirling eddy.

I lay in a frenzy of terror while the snapping and cracking, the booming and shrieking, the blowing and falling, went on. At any moment, might not a single flash of lightning end our existence as in the wink of an eye? Might not a powerful sweep of the

wind carry us away to our death? The earth and sky seemed to be engaged in a furious battle of shrieks and moans. The war ended at daybreak. What havoc met our eyes! A chimney and a porch gone, the barn doors off, the corn crib blown over, and our best and most faithful fruit trees shamefully destroyed! The woods were piled with brush and many a tree bore lightning scars. Nor were we the only sufferers, for many fared far worse.

To this day, I tremble in anxious fear whenever the elements begin their dizzy dance around our isolated farm house.

By Marion E. Shaw, Armada, Mich.

The worst thing I ever heard of happened here last Sunday, when our neighbor boy met with his untimely death.

It was caused by the carelessness of the electric company.

The boys had been climbing the towers which run from Marysville to Pontiac. Last Sunday our neighbor boy climbed the tower. He happened to reach out his hand and the current drew it on to the wire. He fell from the ninety-foot tower, hitting the tower all the way to the bottom. The results were too terrible to tell here.

I understand it is the state law that the company shall have the danger signs on the towers as soon as the current is turned on. There were no signs on the towers. The boy would not have climbed if there had been a sign. No one knew the current was turned on.

It is not the prize I want, but it was so terrible I do want to warn companies not to so carelessly neglect their duty when life is in danger. I also want to warn boys and girls never to go near the electric towers at any time.

It is the life we live, the good we do, and the beauty we see, that reveals the silver lining of each dark cloud.



Drawn by Eno Niemels.

write a letter. To go to school in church must be rather inconvenient, but perhaps you will more fully appreciate your new school. Come again soon.

Dear Uncle Frank:

Thank you for the Merry Circle button and membership card. One evening on my way from school I lost my button. I can be one of your members just the same, can I not?

I have two sisters younger than myself. I have no brothers. My sister and I drive horses in haying time. Together we get ten cents for every load. Your niece, Juella Brower, M. C., Hamilton, Mich., R. 3.

Yes, you are still a Merry Circler as long as you live up to your membership card. You and your sister must be regular farmerettes. Come again soon.

Dear Uncle Frank:

I received my Merry Circle button and membership card, and I thank you very much for them.

I wish that some of the Merry Circle members would write to me, and I promise to answer all letters.

My brother and I belong to a poultry club and we received fifty White Leghorn chicks about two weeks ago, and only two are dead. I think we are having pretty good luck, don't you Uncle Frank?

I belonged to three different clubs in the past three years. The first year I belonged to a hot lunch club, the second to a sewing club, and the third to a poultry club.

I think that clubs are doing country boys and girls a lot of good.

Your niece, Eloise Hartley, M. C., Iron River, Mich.

I am glad to hear you and your brother are such active club members. Hope you have the best of success with your chickens. Let us hear about them later.



Down by the Brook, Just a Fishin' and a Fishin'.

Earning My First Money

IF I tried all the ways of earning money that you boys and girls told me about in the contest this week, I would be quite rich. Anyhow, the letters were all very interesting, and I am sorry I haven't space to print them all. The others will appear later. Following are winners this week:

Pencil Boxes.

Ethelyn Sprecksel, McBain, Mich.
Lewis Mulka, Metz, Mich.

Pencils.

Helen Lardie, Garnet, Mich.
Alta Swinehart, Edwardsburg, Mich.,
Doris Badger, Sherwood, Mich., R. 3.

Maps.

Milo Chew, Bay Shore, Mich.
Ruth Howd, Breckenridge, Mich.,
Mary Cogley, Emmet, Mich., R. 2.
Zetta Graves, Billings, Mich.
Warren Bachelor, Farmington, Mich.
By Ethelyn Sprecksel, McBain, Mich.

The first money that I ever really earned myself that amounted to anything, was one summer when my father had a lot of beans which needed to be picked over before they could be sold. Father told me if I would pick them over he would pay me the regular price that other people were getting for doing the same.

I think I will always remember that Saturday night when father gave me

my first truly earned money. With this money I bought me things which I needed and wanted. I seem to enjoy anything I can earn and know is mine in every sense, more than others.

Read and Win

THIS week we are going to have another Read-and-Win Contest. Be sure to write your name neatly, give short answers, and page upon which the answers are found:

1. Who have raised an advertising fund to develop a permanent market for Michigan fruit in Milwaukee?
2. Why does it pay to breed rapidly feathering birds?
3. How many head of cattle are British buyers planning to import from Canada?
4. What saves the most steps in dishwashing?
5. From where did the white pine blister come?
6. What contribution has M. A. C. plant breeders made to Michigan agriculture?
7. What is Alopecia Areata?
8. Whose slogan is—"Take it with a pinch of salt?"
9. How much Sudan grass should be sown per acre?
10. What is the decrease in per cent of the peach crop this year?

They Produce Superior Products

(Continued from page 49).

In many cases the leadership comes from the elevators themselves. Wide-awake concerns, cooperative or otherwise, which really serve the best interests of their customers, have been anxious to get certified seed into their communities because of the attendant benefit to those who used it. The Michigan Bean Company called meetings at each of its elevators so farmers might learn of the merit of certified seed. The company then held such seed in stock for its farmers. The Clare Elevator Company, and other local elevators have followed the same practice.

A great many of the cooperative elevators have established relationship with the Seed Department of the Michigan State Farm Bureau for continued supplies of association seeds. The Farm Bureau seed department occupies the position of the largest wholesaler of this seed and it has been selling nearly half of the association's product. Its service extends all over Michigan and permanent relations are established with many out-of-state organizations.

Selling through the Farm Bureau seed department has been on the basis of certified seed pools conducted by that organization. These pools have definite closing dates established and the many certified seed growers who have taken that way of marketing their product have received excellent service. Every one of the five pools conducted thus far have been entirely sold out, yielding to consigners a very good margin over ordinary seed prices.

Another important element in efficient marketing of any product is the following up, or sponsoring of that product till it reaches the consumer. Michigan Crop Improvement Association seeds carry a substantial guarantee. The thorough and rigid inspection makes this guarantee possible, and every grower is pledged to stand back of his product to the full extent of the purchase price.

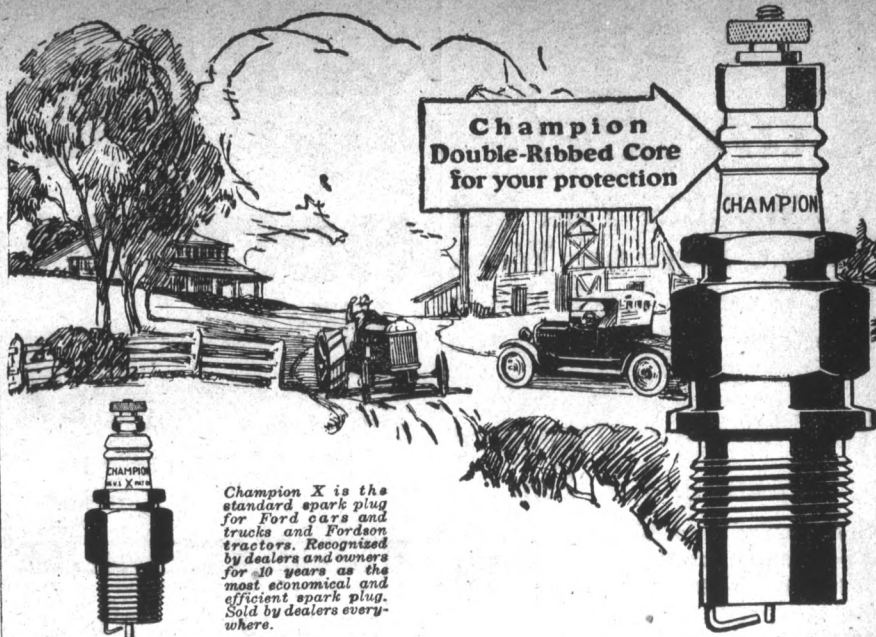
The demand for certified seed grows because buyers have found this seed profitable. While prices are above the commercial market, usually an increased yield of only a bushel will pay splendid returns on the added investment and in most instances this added cost is returned, by the increased yield, several times over. From re-

ports secured from Wolverine oat growers all over the state it was found that the increased productivity of this certified seed over the oats in common use was nearly fifteen bushels per acre, which at forty cents per bushel, paid for added acre seed costs about six times over, while users of certified Robust beans increased their profits by from \$10 to \$40 per acre.

Certified seed growers themselves have a double profit in their venture. They benefit from the increased productivity of the seed and they are paid for the quality of their product. In most cases the price received nets the certified seed grower twenty to eighty per cent more than the ordinary local market. Growers are finding no difficulty in moving their seed. In fact, demands for nearly all certified varieties have been greater than the supply and more than 50,000 bushels of the various seed grains were sold during the past season. This condition, along with the promised establishment of a Hardigan alfalfa seed industry in the state warrants a substantial growth in the number of seed-producing members of the association.

The work of this organization is not only making a better market for seed, but is a potent influence in bringing about more satisfactory markets for general crops. Communities such as the one at Fairgrove, are standardizing on varieties which come from certified seed. Grain buyers like to do business in such places. Quality crops bring premiums as well as do quality seeds, and no few communities have benefited by valued margins paid for the quality of carloads of pure Red Rock wheat, Rosen rye, Wolverine oats and other grains. Organized production of a standard quality product, a vigorous marketing policy controlled by the same organization, proper follow-up or guarantee of the product, and legitimate stimulation of demand by calling the consumer's attention to its superior value, in these principles surely lies one route to greater crops profits.

Our bodies are constantly changing, our nails grow, our hair grows. Scientists tell us we have an entire new body once in seven years. If our minds are active we will be able to see things differently than we did last year.



Champion Guarantee A Pledge of Better Service

The guarantee which appears on the carton containing each Champion Spark Plug is a definite pledge of the better service that is rendered by Champions.

Only because Champion is a better spark plug is such a guarantee possible.

Champion is better because of its wonderful new core—identi-

fied by the Double-Rib. This core has proved its superiority in literally millions of gasoline engines, including motor cars, trucks, tractors and stationary.

This core stands extreme changes in temperature without yielding. It is practically immune to breakage. It never loses its insulating properties.

A full set of new Champions will save you money, both in first cost and in gasoline and oil consumption. Because more than 65 per cent of all spark plugs made are Champions, the price of the Blue Box Line is 75 cents and 60 cents for Champion X.

Champion Spark Plug Company, Toledo, Ohio
Champion Spark Plug Company of Canada, Limited, Windsor, Ontario

CHAMPION

Dependable for Every Engine



Tub Frocks for Little Tots

MICHIGAN FARMER PATTERNS.

No. 4413—Juniors' Dress. Cut in three sizes, 12, 14 and 16 years. To make as illustrated requires two yards of plain and 1½ yards of figured material. Price 12c.



No. 4251—Girls' Dress. Cut in four sizes, 6, 8, 10 and 12 years. A 10-year size requires 2½ yards of 36-inch material. Price 12c.

No. 4411—Girls' Dress. Cut in five sizes, 8, 10, 12, 14 and 16 years. A 12-year size requires 3½ yards of 40-inch material. Price 12c.



No. 4417—Child's Dress. Cut in four sizes, 4, 6, 8 and 10 years. An eight-year size requires 2½ yards of 27-inch material. Price 12c.



No. 4414—Girls' Dress. Cut in four sizes, 6, 8, 10 and 12 years. A 10-year size requires 3½ yards of 32-inch material. Price 12c.

No. 4415—A Comfortable "Smock." Cut in four sizes, 6, 8, 10 and 12 years. A 10-year size requires 2½ yards of 32-inch material. Price 12c.



No. 4381—A Practical Garment. Cut in five sizes, 4, 6, 8, 10 and 12 years. A 10-year size requires 2½ yards of 36-inch material. Price 12c.

No. 4385—Girls' Dress. Cut in four sizes, 4, 6, 8 and 10 years. A six-year size requires 2½ yards of 32-inch material. Price 12c.

Send all orders to Pattern Dept., Michigan Farmer, Detroit, Mich.

If You Can Sell

We Will Buy Your Full Time 6 Days per Week 52 Weeks Each Year
If you can devote your entire time to our sales work

We Have an Attractive Opening for You

One that will enable you to build a permanent profitable business for yourself. You need not have had sales experience in order to handle our work. Your own car and a willingness to devote at least eight hours per day of honest efforts is all we ask.

Fill in and send the coupon below. It involves no obligations and we will advise you of our sales plan that will enable you to have a permanent business of your own.

E. A. SHEARER,
MICHIGAN FARMER
Desk C. 1632 Lafayette Blvd.
DETROIT, MICH.

Gentlemen:—

Please tell me of your sales plan that will enable me to build a permanent business of my own.

Name.....

P. O.

R. F. D. or Street.....

State.....

County.....

POULTRY

PULLETS

Now is your opportunity to buy laying and breeding stock for next season.
3 Weeks Pullets—White and Brown Leghorns, Anconas, Barred Rocks. These Pullets are all grown from carefully built up laying flocks. They will lay this fall and winter.

Yearling Hens—White and Brown Leghorns, Anconas, Barred and White Rocks, Rhode Island Reds, White Wyandottes. First-class selected hens, laying and breeding stock for next year.

Cockerels—White Leghorns, Barred Rocks.
Cock Birds—White and Barred Rocks; R. C. Reds; White Leghorns. These Cock birds should be selected and bought this month, if you want Cock birds for next year.

All stock is guaranteed to be satisfactory to you. Write to us for description and prices.

STATE FARMS ASSOCIATION
Room 201 Chase Block, Kalamazoo, Michigan.

BABY CHICKS

Of quality from real winter layers, mated by pedigree males from Michigan Agricultural College. All our matings are inspected and accredited by our state Dept. Agri. as to their laying ability and health. By close culling year after year we can say we have a real improved egg machine in S. C. American and English strain, White Leghorns and S. C. Sheppard strain, Anconas. Write for our 1923 catalogue and price list, it's free. Chicks 10 cents and up. Reliable Poultry Farm & Hatchery, Zeeland, R. I. Mich.

SELECTED YEARLING BREEDERS

S. C. W. & Br. Leg. & Anconas. All good stock from our breeding flocks to make room for growing stock. Also 8 wk. pullets. Write for prices on what you need.

TOWNLINE POULTRY FARM
R. 1, Zeeland, Mich.

What's a CAPON and Why?

A book that explains why capons are the most profitable part of the poultry business and everything you will ever want to know about CAPONS. 50 pictures from life that show each step in the operation. List of capon dealers' addresses. Tells how to prevent "Slips," where to get the best and cheapest capon tools. Capons are immense eating. Big profits realized. Get wise. This book tells how. Copyrighted new and revised edition. Regular 50c copy, prepaid to your address (a short time only) for a dime in coin or in stamps. **GEORGE BEUOY, R. R. No. 40, Cedar Vale, Kansas**



"Special Sale of July Chicks"

Here is your opportunity to buy good quality Chicks at these remarkably low prices.

LOOK—Assorted lots of chicks \$70.00 per 1000, \$36.50 per 500, \$7.50 per 100, \$4.00 per 50, lot. Guaranteed live delivery to your door. Write for Special and regular price list and free catalog. Order early direct from ad.

W. VAN APPLIEDORN, R. No. 7, Holland, Mich.

Roaches!

HOFSTRA

Kills 'em

also kills —
Flies, Ants, Fleas,
Mosquitoes, Chicken
mites, Bed-bugs, Po-
tato bugs and Worms.
Refill 15c loaded met-
al guns from 30c, 60c,
and \$1.20 packages.
At Grocers and
Druggists.

NOT A POISON

Reduced Prices BABY CHICKS

Best Paying, Heavy Laying, Purebred Strains.
Tom Barron English S. C. W. Leghorns—25,
\$2.50; 50, \$5.00; 100, \$10.00; 500, \$45.00; 1000,
\$90.00. Park's Strain Barred Rocks; S. C. Rhode
Island Reds—25, \$3.00; 50, \$6.00; 100, \$12.00; 500,
\$55.00; 1000, \$110.00. Good strong broiler chicks
\$8.00 per 100. Place your order at once; avoid
disappointment. Get your chicks when you want
them. 100% live delivery guaranteed postpaid.
Instructive catalogue free. Prices on mature
stock, 8—12 weeks old pullets on request.

Brummer Frederickson, Poultry Farm
Box 20 Holland, Mich.

JUST-RITE LOOK!

A Hatch Every Week All Year

POSTAGE PAID, 95¢ live arrival guaranteed. MONTH'S FEED FREE with each order 40 Breeds chicks, 4 breeds ducklings, select and exhibition grades. Catalog free, stamps appreciated.

NABOB HATCHERY, Dept. 15, Gambier, O.

Whittaker's R. I. Reds

Hatch of July 11th \$14 per 100; \$7.50 per 50; \$4 per 25.
Hatch of July 19th \$13 per 100; \$7 per 50; \$3.75 per 25.

Grade "A" Chicks \$20 per 100; \$10.50 per 50; \$5.50 per 25. Prepaid by parcel post and safe delivery guaranteed. Here is your opportunity to improve your flock with Michigan's Best Reds at rock bottom prices. Order from this ad. and state whether you want Rose or Single comb. Do not delay as July 19th will be our last hatch this season.

INTERLAKES FARMS
Box 39, Lawrence, Mich.

PULLETS AND COCKERELS

Order Now for Early Fall

WHITE LEGHORNS AND MOTTLED ANCONAS Also Black Leghorns, Brown Leghorns, Buff Leghorns, Black Minorcas, R. C. Rhode Island Reds, Barred Plymouth Rocks, White Plymouth Rocks, Silver Wyandottes, White Wyandottes. WE HATCH eggs from Hoganized flocks on free range on separate farms, where also our stock is raised.

CRESCENT EGG COMPANY
Allegan Send for Prices Michigan

GREENLAWN CHIX AFTER JUNE 15th

White Rox, Barred Plymouth Rox, R. I. Reds, or Black Minorcas, 13¢ each. White Leghorns, Anconas or Broiler Chix 12¢ each in 100 lots. All chix less than 100 lot 14¢. Order now for June, July and August. Our 13 years producing chix that please. Sept. Chix 15¢ straight. GreenLawn Poultry Farm, South of High School, Fenton, Mich.

Baby Chicks \$12.00 per 100 and up
Hatching eggs, \$1.50 per setting to \$5.00 per 100. We are listing 17 varieties of pure bred fowls; Chickens, Geese, Ducks & Guineaas, also breeding stock. Send for prices and circular. Booking now for early delivery. **CLINTON HATCHERY & POULTRY FARMS, Wilmington, Ohio.**

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, 175 Prospect Blvd., Jackson, Mich.



BROODY HENS NEED CARE.

AT this season it pays to inspect the nest every night at sundown and confine all the brooder hens. If found the first night they can usually be broken up in about three days. If they waste time setting in the hot hen house they injure the eggs laid by the other hens, and also become reduced in flesh and vigor so their return to laying condition is delayed.

Experiments prove that good treatment of broody hens is the most profitable. Starving and frightening them is not good management. They need plenty of fresh cool water and about the same feed they would have for heavy laying. A broody coop with a slatted bottom will break up hens quicker than a brood coop or a shipping coop where the broody hen is often able to build some resemblance to a nest on the ground. The slatted broody coop can be suspended in the cool shade of a tree if the poultry house is too hot in summer.

It is cruel to keep a mother hen in a brood coop with black roofing paper on top if the coop is without shade during the heat of the day. These small brood coops become very hot and too often the hens are neglected or given drinking water in small dishes that are promptly tipped over, leaving the hen to go thirsty the remainder of the day. Metal brood coops are regular bake ovens when left in the sun.

It seems that the moult can be delayed with many hens if they are given a cool ventilated henhouse and plenty of shade on the range. The open front house with the door open during the day is usually cool enough. But houses covered with black roofing paper must have considerable circulation of air or the hens are devitalized. Plenty of shade on the range can be supplied with fruit trees, corn, sunflowers or an evergreen hedge. Colony houses raised from the ground will furnish a few square feet of cool earth where young birds can dust.—Kirby.

SELL OLD HENS AS THEY ARE.

OLD hens of the heavy breeds are in great demand at this season for Sunday dinners. A good six-pound hen makes a family dinner, with portions left for Monday. I do not think that such hens need any fattening. Often they become too fat to be appetizing. Most people like to buy a plump, healthy, smooth chicken, but not one that is rolling in lumps of fat.

STUDY BROILER PRICES.

IT pays to study the market before selling broilers. A difference of five cents per pound means ten to fifteen cents per bird. That is \$10 or \$15 on a hundred birds. The \$10 or \$15 may be a large part or all of the profit. There is quite a variation in the prices paid by different dealers for broilers and because they are a surplus product is no reason for sacrificing them.

CLEAN UP BROODERS.

AS soon as the fires are out all the brooders should be cleaned and removed to a dry store room. If the stoves are left in the dirt they soon rust and their life is reduced. Wipe the metal parts with a rag moistened with machine oil. It will place a film of oil between the iron and the air and

keep the stove from rusting. Gather up all the small fountains and feeding dishes and place them in their storage box. It will save digging in the snow for the utensils when the early chicks come out next spring.

SELECT COCKERELS THAT GROW RAPIDLY.

WATCH for the young cockerels that develop rapidly and grow at an early age. They feather rapidly and show all the marks of vigor. Such birds will help in producing early-maturing pullets next year, and they are the type of pullets that produce fall and winter eggs.

It pays to breed from rapidly feathering birds as it saves brooder fuel in the spring. I find that chicks can stand quite a little cold when they are about feathered out. The slow feathering members of a flock are easily chilled and stunted and make it necessary to keep the brooder fires going for a long time.—R.

FEED CONFINED FOWLS GREEN FEED NOW.

IF the hens are in yards or on a dried-up range they need green food the same as in winter. A row of Swiss chard on well fertilized soil will produce an abundance of large succulent leaves. It takes only a minute to gather a bushel of this green feed and it will help in stimulating egg production.

PREPARE FEED FOR NEXT WINTER.

WEEDING and thinning the mangels is profitable work for a poultryman. They are fine for laying hens in winter and cheaper than sprouted oats. Fine chopped mangels will be a fine source of succulent green feed for the baby chicks in the brooder houses next spring.

All the green feed we can raise for the poultry will prove useful because health and vigor are just as essential to hens as concentrated rations to force egg production. The bulky green feed helps to prevent digestive disorders and enables the flock to produce more hatchable eggs for early spring incubation.

WATCH FOR MOULDY FEED.

AS last year's supply of grain begins to run out be sure that no spoiled wheat or corn is given to the flock. This results in ptomaine poisoning. It may cause serious losses before the danger is realized. A dead hen or rat on the range may cause several losses. If a bird is buried near a poultry range it should be placed deep enough for safety. Dogs have an unpleasant habit of locating a buried chicken and starting excavations on the tomb, which have no historical value.

When in doubt as to the purity of poultry feed, it is always best not to use it. This applies to mouldy bread, grain that has been soaked and become sour, or milk that seems to be not just sour, but decayed.

The world continues to move on. So do the years. To keep up we must keep going. If we stop we lose so much from life. And when we get going again, if we ever do, we will be lagging behind our proper place in the procession.

John, the Apostle

Our Weekly Sermon—By N. A. McCune

A PROFESSOR of English literature said some years ago that the gospel of John had had more books written about it than any other piece of writing.

The author of this book was undoubtedly John the apostle. No man ever went through a greater change of character. With his brother, James, he was in the fishing trade, when he heard the call to be a follower of the Galilean. His temperament was of the hot, lightening variety. Christ nicknamed the brothers, "Sons of Thunder," and there was good reason for it.

One day the little band of men was passing through Samaria, and some Samaritans were rude and insulting toward them. Instantly James and John cried out, "Shall we call down fire from heaven, and consume them?" alluding, of course, to what Elijah had once done.

They were ambitious, too. They had an eye for the main chance. They knew suckers from trout. They probably came honestly by this characteristic, for one day their mother made a particular request of the Master, to the effect that her sons might sit on his right hand and his left, in his kingdom—be secretary of state and secretary of war, as it were.

But all this passed away, with John's conversion. Whether his conversion was sudden and powerful or was slow and quiet, we are not told. But it took place somehow, that is certain. There is that in John which reminds us of another John—John Newton. This man was an English drunkard, and was engaged in the slave trade, the last man on earth that one would suspect of becoming noted for his holiness. Yet such was the case, and Newton became one of the best hymn writers in the English language. His hymns, "Safely through another week God has brought us on our way," and "Glorious things of thee are spoken, Zion, city of our God; He whose word cannot be broken formed thee for his own abode," are in almost every church hymnal.

Peter was known for his activity and zeal, but John for his spirit of love. He became known as the beloved disciple. At the last supper and at the cross he appears as one of the central figures. He might have written the thirteenth of First Corinthians, for when that famous chapter states that "the greatest of these is love," it is expressing what John lived.

IN the gospel of John we have what is unquestionably the record of an eye witness. It is also the record of an old man, written long after the events had taken place, events that had been indelibly impressed on the memory. Little things are explained, or are stated with particular care; things which ordinarily would not be noticed. Over and over the words go on to say that some event took place which could not possibly have been known, but by some one who was there.

John was the guiding spirit of the church in Ephesus for many years. He wrote the First Epistle of John as a farewell letter to this church. There is a legend of his last days, how, too feeble to work, he was carried into the midst of his friends, and repeated over and over, "Little children, love one another." Some one asked him why he said this and no more, to which he replied, that if they loved each other

nothing else was needed for happiness.

"He that loveth not, knoweth not God, for God is love," says the Epistle. These words sound almost too simple for serious-minded men and women of the world to consider. But suppose the people of influence and affairs did consider them. Suppose they actually set out to practice them. How long would there be cliques and "sets" in society? How long would some people go about disappointed and embittered because they cannot get into some forms of society? "Peace is good, say the militarists, but we must prepare for war; we must keep on spending our millions for defense against an imaginary enemy."

But there would be no preparations against future enemies, under the regime which John commends. "Little children, love one another." Small towns would cease to have factions which may be counted on to pull against each other. A sound basis would be reached, whereby good will would prevail in society everywhere.

A man once got off the train in a village and found the streets filled with people who appeared to be excited. The stranger asked an old man what it meant and was told that the whole village had turned out against a mad dog, and the old man added, "I've lived here thirty years, and it's the first time I ever knew the town to be united on anything." Some towns need more mad dogs. But St. John's motto would be a more lasting program of action.

It is certain that the apostle lived to a very advanced age. It is supposed that he remained in Jerusalem until the Virgin Mary died. (It will be remembered that he took her to his home, after Christ's death on the cross). After that he went here and there evangelizing. The tradition is,

that once he was flung into a cauldron of boiling oil, but came out unharmed.

Probably while living at Ephesus he was exiled to the island of Patmos, and then wrote Revelation. It was his prison. Revelation is a book, as it were, from behind prison bars.

The world has been blest with prison literature. Pilgrim's Progress was written in prison and some of Madam Guyon's songs. But the finest and greatest of all prison literature is the Book of Revelation.

JOHN was a man of brain power. This is likely to be forgotten because of the emphasis on his goodness and gentleness. But great books do not grow on raspberry bushes, no matter how much is paid for the bushes. And John's gospel, Revelation, and his First Epistle are great books.

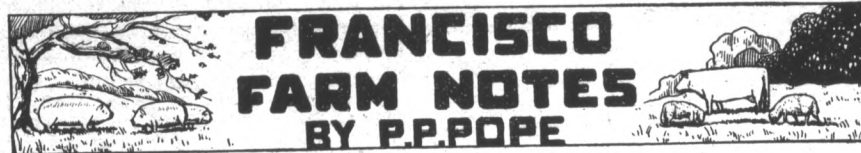
No modern "best seller" can compare with them. How many of the books now talked about will be read nineteen hundred years from now? But John's books have interested the world for that length of time, and never commanded more attention than they do now.

Take one or two expressions from them: "Thou art worthy, O Lord, to receive glory and honor and power; for thou has created all things, and for thy pleasure they are and were created." "And I saw the dead, small and great, stand before God; and the books were opened: and another book was opened, which is the book of life: and the dead were judged out of those things which were written in the books, according to their works."

SUNDAY SCHOOL LESSON FOR JULY 22.

SUBJECT:—John the Apostle—Mark 1:16 to 20, 3:17; Luke 9:49 to 56; John 13:21 to 25; Acts 4:13 to 29; John 4:7,8, and Rev. 1:9.

GOLDEN TEXT:—God is love, and he that abideth in love abideth in God, and God abideth in him.—I John 4:16.



FRANCISCO FARM NOTES BY P. P. POPE

WE went out on the lawn last night, the little girl and I, to take a look at the stars. We love to do so occasionally, for thereby we find abundant play for the imagination.

The Planet Saturn, with her brilliant rings, shown brightly down upon us. She is approximately seven hundred million miles away at this writing. We think we drive long distances and fast, in our flivvers, but we would no doubt want someone to spell us at the wheel, if we were bound for Saturn, as it would take ten thousand years to get there if the roads were good.

The sun is only ninety-three million miles from the earth. It is but a star like these others. Perhaps these other stars are also suns to little planets like the earth, that constantly revolve around them.

The earth is twenty-five thousand miles around; three-fourths of it is water; a tiny fraction of its surface is Michigan; our farms are but specks, yet they endure to the end of time. We ourselves are scarcely perceptible. We are here today, gone tomorrow, yet the world moves on without a ripple. How insignificant is man as he plays his infinitesimal part in the eternal plan of the universe.

Ordinarily we do not seem to appreciate the situation. We go about our work as if the success of the world depended upon us. We fix our eyes and our attention so close to the ground that we fail to see ourselves

and our farms in their true relation to the world at large. We make ourselves and our families miserable from overwork and worry. We rob our soils, we find fault with our neighbors, we get blue and despondent, we grumble and complain. We scramble around on the surface of the earth like fleas on an elephant's back, and imagine we are cutting quite a swath. It must be amusing to the Creator to see us swell up with self-importance and egotism.

To him who finds pleasure in the contemplation of Nature in all her magnitude, there is a certain release from the weight of daily cares, and a feeling of content that comes from thoughts of the great universe, the age-old earth, and its varied inhabitants.

He can the better realize his very minute proportions, and that his boastful, bigoted self is chiefly important to himself alone. A better understanding of his relation to the world can but give a right attitude toward life, and new strength for the duties and tasks that await him.

Growth is the regular order of business. It applies to everything. Nothing remains stationary. It grows or decays. There is a constant change going on, even in us.

Rarely do potatoes sprayed with Bordeaux mixture to kill the hopper-burn fail to repay it many times over.



More and Cheaper Silage—Less Labor

THE "powerful compression" Automatic-feed of the 1923 Papec takes the place of an extra man at the feeding table. It handles heavy corn and crooked stalks. It will cut your silo-filling cost and enable you to fill with a smaller crew.

No more heaving and pushing—no more "riding the bundles" with the Papec—use your extra man to throw bundles from the wagon—you won't need him at the feed table.

You can buy this improved cutter, backed by the Papec guarantee, at a price in line with farm products. Simple design, tremendous production and specialized machinery makes this possible. Ask your dealer to quote you on the size you need.

THROWS AND BLOWS



Catalog FREE

Our 1923 catalog fully describes and pictures the best Ensilage Cutter ever built. Tells how the Papec will pay for itself in from one to two seasons. Labor-saving features on smallest size cutter same as on the big cutters. Write for catalog today. A postal now may be the means of saving you hundreds of dollars.

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36 Distributing Houses Enable Papec Dealers To Give Prompt Service



HEAVES Is your own horse afflicted? Use 2 large cans. Cost \$2.50.

Money back if not satisfactory. ONE can at \$1.25 often sufficient. In powder form. Most for cost.

NEWTON'S A veterinary's compound for Horses, Cattle and Hogs. Heaves, Coughs, Distemper, Indigestion, Worm expeller, Conditioner. At dealers or by parcel post. 30 years' sale. THE NEWTON REMEDY CO., Toledo, Ohio.

Sterilizes



A few spoonfuls of B-K in water absolutely sterilizes milkers, separators, churns, pails and cans—makes everything sweet and clean. B-K also kills the germs that sour milk.

B-K is a powerful germ killer—no poison, clear, clean, leaves no odor. Used by leading dairymen everywhere. In bottles or jugs at your dealers. Write for free booklet on dairy sterilizing.

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Our Product Is The Best

Painstaking, modern and scientific methods, coupled with the finest of breeding animals makes possible our enviable accomplishment.

You, Mr. Breeder, would enjoy and profit by a visit to this unique establishment of superlative breeding.

Your correspondence and inspection are invited.

WILDWOOD FARMS
ORION, MICHIGAN
W. E. SCRIPPS, Prop. SIDNEY SMITH, Supt.

Registered Aberdeen-Angus 10 heifers, 6 bulls from eight to fourteen months. Best of breeding. The growthy kind that make good. Reasonable. Inquire of F. J. Wilber, Ohio, Mich.

Registered Guernseys

A fine Bull ready for light service, special terms if you wish. J. M. Williams, No. Adams, Mich.

For sale Registered Guernsey cows, May Rose Breeding also bull calves \$50 each. Registered A. R. dams. JOHN EBELS, R. 2, Holland, Mich.

WINNWOOD HERD

Registered Holsteins

?

Ask us about a Real Bull a
Maple Crest or an Ormsby.

JOHN H. WINN, Inc., Rochester, 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.

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

A Good Note accepted in payment of finely bred registered Holstein bull calves. Quality of the best, and at prices within reach of all. Write GEO. D. CLARKE, Vassar, Mich.

HEREFORDS

10 extra nice Repeater and Fairfax heifers from 14 to 20 months old for sale, also 10 cows.

ALLEN BROS.

616 So. West St., Kalamazoo, Mich.

HEREFORDS

Young Cows with calves by side consisting of blood from America's foremost herds at prices that enable them under Earle's Hereford Beef Plan to pay for themselves within a year to 18 months. Bulls including prize winners at the largest shows at practical prices. Herd headed by Straight Edge 11877, one of two sons of perfection. Fairfax out of a daughter of the Famous Disturber. T. F. B. Sotham & Sons, (Herefords since 1899), St. Clair, Mich.

LINE BRED MAJESTY'S

Our sire

Sunburst Origas Majesty

Whose 3 nearest dams
average 802 lbs.

For sale a Bull calf of correct type and priced to sell.

H. S. WELBORN

FIVE PINE FARM

R. 1. Kalamazoo, Mich.

Brookwater Jerseys

Ready for service bulls for sale from Register of Merit dams.

Herd sire: MAJESTY'S INTENSE 127191.

Herd on federal accredited list as tuberculosis free, BROOKWATER FARM, Ann Arbor, Michigan
H. W. Mumford, Owner, J. B. Andrews, Lessor.

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

FOR SALE: Jersey bulls ready for service. All cows Register of Merit. Accredited herd. SMITH AND PARKER, R. 4, Howell, Mich.

Registered Jersey cattle, young bulls, for sale. Tuberculin tested. J. L. CARTER, Lake Odessa, Mich.

30 Head of Jersey cows and heifers for sale. Chance to select from herd of 70. Some fresh, others bred for fall freshening. Colon C. Lillie, Coopersville, Mich.

Shorthorns Bidwell Revolution Jr. heads herd. Sire, Revolution, Dam, Maxwellton Rosewood 3d, 2d Dam, Imp. Rosewood 3d. Now offering one good roan two year old bull out of a Marr Marigold dam, also a few cows and heifers safe in calf. Prompt attention to correspondence—visitors welcome. State Accredited herd. One hr. from Toledo, O. N.Y.C. Ry. BIDWELL STOCK FARM, Tecumseh, Mich., Box D

Francisco Farm Shorthorns

and Big Type Poland Chinas. One 2 yr. old bred Heifer, \$200. Two choice yearlings, \$150. each. Three bulls, \$100. up. 3 boars, \$25 each. Lots of spring pig. of March farrow. P. P. Pope, Mt. Pleasant, Mich.

Two Scotch Shorthorn Bulls For Sale
J. A. BARNUM, Union City, Mich.

Richland Shorthorns

Special offer: Twelve Bulls from twelve to twenty four months old. Red, White, Roan. Good size, best of breeding—from good milking dams. Priced for quick sale. Write for particulars.

C. H. Prescott & Sons,

Office at Tawas City, Mich. Herd at Prescott, Mich.

Maplewood Milking Shorthorns A few choice cows, also roan bull calf two months old. Harter & Easton, Jenison, Michigan

HURON County Shorthorn Breeders' Assn. can supply your needs with high class individuals. Write for list to E. E. Twing, Bad Axe, Sec. Treas.

Milking Shorthorns priced reasonably. An accredited herd selected for beef and milk. Beland and Beland, Tecumseh, Michigan

FOR SALE Registered Roan Durham cows and heifers. Write for particulars. W. O. Raymond, R. 1, Beaverton, Mich.

HOGS

Woodlawn Farm Duroc Hogs meet requirements, length, size and quality. Young stock for sale at reasonable prices and fully guaranteed. Write your wants. W. E. BARTLEY, Alma, Mich.

I AM OFFERING BRED SOWS

fall yearling and spring gilts, bred for March and April farrow, that are tops. Mated to O. C. K. Col. 2nd and Orion Giant Col. Write for price list. W. C. TAYLOR, Milan, Mich.

Is It Worth While?

A real boar pig sired by Woodford Sensation, Dams of Defender or Pathfinder breeding.

If so,

We have them of Sept. farrow, not only showing extreme quality, but greater size than you will expect to find. Follow M 29 to

Kope-Kon Farms, Coldwater, Mich.

DUROC JERSEYS Spring pigs either sex of March April and May farrow, sired by three outstanding herd boars. If you want size type and quality combined come and see or write us. F. J. Drodt, Monroe, Mich. R. 1

Duroc—Jerseys A few Pathfinder Gilts Bred to a good son of Foust's Top Col., E. D. Heydenberk. Wayland, Mich.

April farrow \$12.50 reg. for a short time. Durocs, Fall gilts, \$20. to \$25. breeding quality. Satisfaction or money back. B. E. Kies Hillsdale, Mich.

DUROC JERSEYS AND DELAINE MERINOS.
CAREY U. EDMONDS, Hastings, Mich.

FOR SALE A few Duroc Gilts bred to the best sire in Michigan. CLARENCE B. CALKINS, Wayland, Mich.

Benjamin's BIG TYPE CHESTER WHITE'S Early maturing, prolific, heavy weight, prize winner kind from bloodlines of Champions and Grand Champions, now making big money for thousands. I have started more breeders on road to success than any living man. Let me help you. Easy to start. Costs little. G. S. Benjamin R. F. D. 10, Portland, Mich.

Live stock AND DAIRYING

BUSINESS EXPANDS RAPIDLY.

LAST year at this time the Standish creamery was taking in 18,000 pounds of milk per day. This year the concern is purchasing 41,000 pounds of milk per day. This year manager is without doubt the cause of much of this development, he declares that the introduction of pure-bred stock in that community is responsible for from twenty-five to fifty per cent of the increase. The Standish chamber of commerce has sponsored the "Better Dairy Cattle Movement" in an effort to increase the general prosperity of the community. Where the dairy cow does well, everyone profits, and Standish appears to be on the road to become "one of the best little dairy communities in the state."

WATCHING THE OTHER FELLOW DO IT.

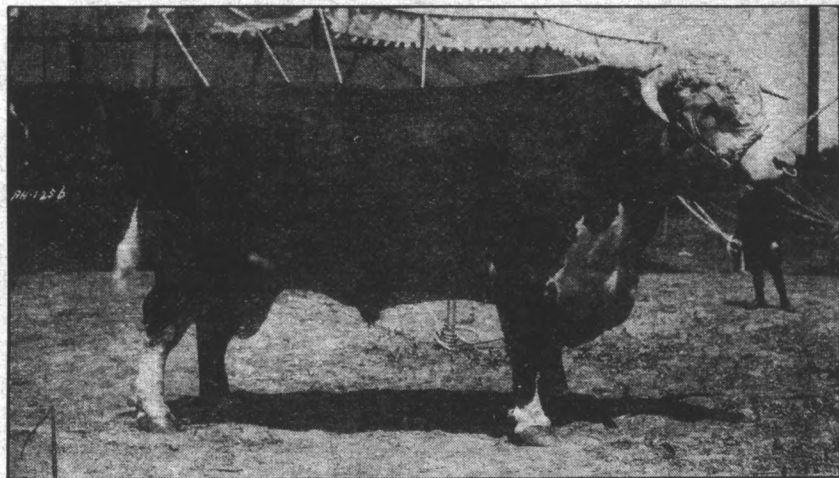
TWENTY-FIVE Midland county farmers closed shop and piled the entire family in their cars for a tour of Bay, Saginaw and Midland counties

ed with the number saved during the same period last year, is indicated by the third semi-annual pig count made by the United States Department of Agriculture, reports having been received from over 140,000 hog raisers throughout the country.

An intention to breed 28.3 per cent more sows for fall pigs than farrowed last autumn is indicated by the returns. For the corn belt states the increase is indicated at 25.5 per cent. In the North Atlantic states, including Pennsylvania, the increase is 42.6 per cent. In Michigan the increase is thirty-two per cent; in Ohio, twenty-three per cent; Indiana, twenty per cent; Illinois, twenty-two per cent; Wisconsin, twenty-four per cent, and Iowa twelve per cent.

NOW SHIP TO ENGLAND.

CANADIAN farmers are shipping their stocker and feeder cattle to England, according to reports received by the American Farm Bureau Federation. These cattle were formerly shipped to the United States to be fat-



Searchlight, the Leader of the L. Whitney Watkins Hereford Herd, was Secured at a Long Price, and will be One of the Animals the Hereford Enthusiasts will inspect on the Hike From July 24 to 27.

on June 27, in the interest of better dairying and alfalfa raising. They visited the farms of George Bergtold, Frank Trombley, James Wilder, T. F. Marston, and George J. Hicks, for a study of dairy methods and dairy-cow types. Rain in the afternoon did not dampen the ardor of these tourists. Jim Hayes and County Agent McMurry followed the tour through to the end and injected into the entire outing a high degree of enthusiasm by their peppy speeches.

SWEARS BY SWEET CLOVER.

ONE mile from Midland lives Fred Sias. He deserves a place in the hall of fame. During the spring he pastured fifty-seven head of four-year-old steers on twenty-five acres of biennial sweet clover, and his grain supplement has only been 400 pounds per day.

Mr. Sias put the steers on the clover as soon as it first poked its head above the ground. The steers will be marketed this month. Experts say they are contenders for market top honors. "Don't try to make steers eat tough clover after it has weathered the better part of the spring," is Mr. Sias' sage advice.

PIG CROP SLIGHTLY LARGER THAN LAST YEAR.

AN increase of nine-tenths of one per cent in the number of pigs saved from farrowings in the six months ended June 1, 1923, as compar-

tened on our pastures and corn, providing a profitable business on many farms in Pennsylvania and the corn belt states, but this trade has been greatly hindered by the two cents a pound duty carried in the new tariff law, against which the American Farm Bureau Federation, the Pennsylvania Farm Bureau and Illinois Agricultural Society vigorously protested.

It is stated that 10,000 head of cattle have already been shipped and that before September 1, 50,000 head additional will be shipped to England. British buyers are planning to import 200,000 head of cattle from Canada. Exporting of cattle on the hoof from the United States to Europe ceased years ago, and it is a new experience for Canada.

SUGGESTS SUDAN GRASS.

Will you please tell me what I can sow on muck land to make pasture for cows for this summer and fall?—C. E. F.

Sudan grass is one of the best annual crops for summer pasture. Hungarian millet is well adapted to muck but is not as good a pasture crop as Sudan, due to the fact that the root system is not as large and consequently is more likely to be pulled up from the ground in grazing.

Sudan grass should be sown at the rate of from twenty to twenty-five pounds of seed per acre, and usually provides pasture until killed by heavy frost during the fall.—C. R. Megee, Farm Crops Department.

HOLSTEIN TOURS.

THE dates for the tours arranged by the State Holstein Association, cooperating with the Dairy Department of the Michigan Agricultural College, and the county agents and local Holstein breeders in the several counties, are as follows:

July 23—Macomb.
July 24—Washtenaw.
July 25—Wayne.
July 26—Monroe.
July 28—Ingham.
July 30—Eaton.
July 31—Hillsdale.
Aug. 1—Lenawee.
Aug. 2—Oakland.
Aug. 3—Livingston.
July 31—Jackson.
Aug. 1—Barry.
Aug. 2—Calhoun.
Aug. 3—Allegan.
Aug. 4—Ottawa.
Aug. 7—Gratiot.
Aug. 8—Saginaw.
Aug. 9—Tuscola.
Aug. 10—Sanilac.
Aug. 7—Shiawassee.
Aug. 8—Chilton.
Aug. 9—Ionia.
Aug. 10—Kent.
Aug. 11—Genesee—Grand Round-up at farm of D. D. Aitken, ex-president National Holstein Association.

TUBERCULOSIS WORK CONTINUES.

THERE are now twenty-two veterinarians working to free Wayne county herds of tuberculosis. When this work first started Wayne county cows were twelve per cent infected. The re-tests show that this has now been cut to four per cent. Another test will probably be necessary to weed out the bulk of the remaining diseased animals. There were 17,360 cattle in the 1,742 herds tested; 711 reactors were found in the 362 infected premises. Another force of veterinarians are starting in Grand Traverse county to make a re-test. The last test there showed only 1.28 per cent of the cattle infected. It is expected that the present test will place Grand Traverse county on the modified accredited area list. This will be the fifth county in the state having less than one-half per cent of the cattle tubercular.

SOUR MILK.

Have been having trouble with milk souring after it was cooled. On inquiry at the station where we deliver the milk, was told that some cows were known to give sour milk from one quarter. Is this true? If so, what remedy for it?—V. D.

We never heard of anything of this sort before. It is true that some lactic acid bacteria sometimes will enter the lower portion of the milk duct in the end of the teat and possibly a drop or two might become sour. Owing to this fact, in dairies where "certified milk" is produced it is a practice to milk out just a little of the milk before saving any of it. This is not considered necessary for ordinary milk, even that produced and known as market milk, though it would be a good plan, especially in hot weather.

It is the lactic acid bacteria that cause milk to sour. If you can keep them out the milk will keep sweet; however, it is practically impossible to keep them all out, even certified milk is allowed to have ten thousand per cubic centimeter.

The milk should be produced as clean as possible and cooled at once, the lower the better, but at least as cool as well water. While it is cooling it should be stirred so the whole mass will be of the same temperature, otherwise it will cool around the outside and the center of the can will be warm and afterwards, mixing with the outside, will sour the whole of it. After the milk is cooled it should be kept cool and not allowed to warm up again.

Milk must be given some little attention in hot weather to keep it suitable for market milk or for the condenser.—C.

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.

Nervous Horse—Poor Circulation.

A naturally nervous horse fifteen years old was cast some 18 months ago and while the veterinary was doing some dental work on him, he struggled much. For two weeks he was stiff and sore; now he is seemingly well, but the veins stand out very prominent on several parts of body. Does this indicate heart, or internal trouble? G. W. G., Rapid City, Mich.—If he is fleshy, reduce him. It will benefit him to do light work. Give him a teaspoonful of acetate of potash in feed or in drinking water twice a day.

Indigestion.—Our sows seem to have stomach trouble. They bloat, this causes their heart to flutter. M. K., Milford, Mich.—Mix equal parts of ginger, gentian, baking soda, salt, powdered wood charcoal together, and give each sow a teaspoonful at a dose in feed or two or three times a day.

Depraved Appetite.—Ever since spring our cows have seemed crazy for wood to chew on. When in the barnyard they have slabs of wood in their mouths. Will you tell me the cause, also a remedy. Mrs. H. J. B., Mason, Mich.—It is generally believed, from the fact that this disease is very largely one of regions, that some condition of the soil and water and of local vegetation is responsible for it. Now, in treating this ailment the aim should be to improve the process of digestion and to supply the animal with a sufficiency of sound and wholesome food. Mix four ounces of carbonate of iron, four ounces of powdered gentian, four ounces of powdered fenugreek, eight ounces of salt, in one pound of finely ground bone, give each cow two tablespoons in each feed. Also add plenty of powdered wood or cob charcoal to their feed. I have obtained fairly good results from giving apomorphine hypodermically, but if you try this remedy, your veterinarian should give it.

INDIANA SILO

The Standard for a Generation

AFTER a generation of service many Indians are in perfect condition. They keep feed without rot or spoilage better than any other silo made.

Big scale production at a narrow profit gives the farmer the largest possible value for his dollar. Corn is late. You have still time to get an Indiana up this year. Write now.

Agents—Get in touch with us today.
THE INDIANA SILO AND TRACTOR CO.
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CONCRETE STAVE SILOS

Write for our Free Silo Book. Tells how we build them for you from the ground up. Our perfectly processed concrete staves give you construction that lasts forever, yet costs no more than wood stave silos. Fire and wind resisting. No painting, no guy wires. Noting of hoops. Keeps silage fresh and sweet. Unequaled for cold climates. Write for illustrated fact-proving catalog.

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MINERAL COMPOUND FOR SYMPTOMS OF HEAVES

Booklet Free. \$3 Pkg. guaranteed to give satisfaction or money back. \$1 Pkg. sufficient for ordinary cases. MINERAL REMEDY CO. 463 Fourth Ave., Pittsburgh, Pa.

PATENTS

CLARENCE O'BRIEN, REGISTERED PATENT LAWYER, 952 Southern Bldg., Washington, D. C.

HORSES

For Sale Registered Percheron stallion six years, next November. Kind and well broken. Cheap if taken at once. Geo. Earle, Middeville, Mich.

WANTED

We are in the market for

Railroad Ties

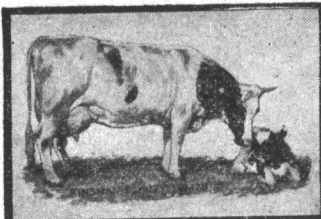
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DETROIT, MICHIGAN



ARE YOUR COWS Losing Their Calves From Abortion?

You Can Stop Them Yourself AT SMALL COST

Ask for FREE copy of "The Cattle Specialist," our cattle paper. Answers all questions asked during the past thirty years about abortion in cows. Also let us tell you how to get the "Practical Home Veterinarian," a Live Stock Doctor Book, without cost. Veterinary advice FREE. Write tonight. A postal will do.

Dr. David Roberts Veterinary Co., Inc., 153 Grand Ave., Waukesha, Wis.



Better Silos—Bigger Profits

The Prosperous Farmer today is the one who is milking cows and feeding stock. Good silage is the most economical feed for livestock and dairy cows. It cuts down cost of production and yields greater profits. World's Standard Kalamazoo Silos make 100 per cent perfect silage.

Our Glazed Tile Silos are built of moisture-proof Glazed Building Tile. Blocks have three dead air spaces—deeply grooved, tongued and splined. Shipped ready to erect—no nails or screws needed. Continuous door frames of heavy, galvanized steel. Write for Silo Book today.

Modern, permanent, beautiful, economical buildings for your farm. Free information on how to judge tile and how to plan your new buildings. Write today. KALAMAZOO TANK & SILO CO., Dept. 223 Kalamazoo, Mich.

Mr. L. Whitney Watkins

Requests the honor of your presence at

WATKINS FARM

Near Manchester, Michigan

on Thursday, July 26th, 1923

10:30 A. M. RECEPTION; Michigan Hereford Cattle Breeder's Ass'n. and visiting Farmers.

12:00 Noon LUNCHEON Barbecued Hereford Baby Beef.

1:30 P. M. AUCTION; 1st Annual Watkins Farm Sale of 63 HEREFORD CATTLE.

45 Lots (18 calves presented free with their dams)—5 Bulls including an excellent son of the King of Hereford Sires Perfection Fairfax, and another out of a great daughter of Beau Mischief, 40 Cows and Heifers. All the best Hereford blood represented. First Class individuals. Prices are sure to be low in keeping with present farm conditions. Sale under cover rain or shine. For Illustrated Catalog, address:

T. F. B. SOTHAM & Sons, Sale Mgr's.
ST. CLAIR, MICHIGAN

HOGS

FOR SALE, One extra good registered. Pigs 3 months old. \$15. Foundation stock procured from Benjamin. JOHN KENNEDY, Alamo, Mich.

CHESTER WHITES WATCH our ad for fall bred sows and gilts. WEBER BROS. 10 Mile Rd. West Royal Oak, Mich.

Chester Whites Herd headed by The Monster and Iowan's Jumbo. Two great Big Type boars of the breed. FRED L. BODIMER, Reese, Mich.

Chester Whites Gilts bred for fall, also spring pigs. C. O. D. re-clinton, Mich.

CHESTER White—2 show boar prospects by Prince C Big Bone and Advance Type. Gilts bred for August farrow and spring pig. Priced reasonable and satisfaction guaranteed. John C. Wilk, Alma, Mich.

O. I. C's and Chester Whites Gilts sired by Mich. State Fair Gr. Champion 1921, and bred for March and April farrow to Mich. State Fair Jr. Champion 1922, the common sense type and price.

ANDY ADAMS, Litchfield, Mich.

O. I. C's Orders booked for late farrowed spring pigs at \$10 to \$12 each. Registered free. C. J. THOMPSON, Rockford, Mich.

O. I. C. Spring pigs, single or in pairs. Price right. Satisfaction guaranteed. E. C. Badgley, Jackson, Mich. R. F. D. 1.

O. I. C. One last fall boar, 10 last fall gilts bred. 100 this spring pigs, recorded free, 1/2 mile west of Depot. City's Phone, Otto B. Schulze, Nashville, Mich.

O. I. C. March pigs, single or in pairs, also bred gilts for August farrow. CLOVER LEAF STOCK FARM, Monroe, Mich.

O. I. C's One yearling boar and March pigs Young Brown Swiss bull, Milo H Peterson, Elmhurst Farm, Ionia, Mich. R 2

FOR SALE Registered O. I. C's, March pigs sired by Callaway Edd. Either sex. Lee E. Gale, Mecosta, Mich.

Quality Poland Chinas

Sired by a good son of Orange Clansman. Now offering a few fall gilts and spring pigs of either sex. S. S. BURRILL, Reese, Mich.

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

Line Bred Liberators

By Revelation and Peter. The Great, boars. The last word in Poland China Breeding. Bred sows and spring pigs of either sex. Prices right. Vaughan's Seed Farm, Ovid, Mich.

RADIO GIANT

Represents the worlds largest strain of Poland China Hogs. Boars, Sows, Pigs at bargain prices from Mich. pioneer herd. We have bred them big for 30 years. We can furnish what you want. JNO. C. BUTLER, Portland, Mich.

L. T. P. C.

Choice Gilts \$25 to \$40. Boars \$30. Fall Pigs \$15. HART AND CLINE, Address F. T. HART, St. Louis, Mich.

BOARS READY for service, Spring boars at weaning time and gilts bred to (Ambition Again) for Sept. farrow. They are priced to sell and shipped on approval. Dorus Hover, Akron, Mich.

Large Type P. C. Largest in Mich.

A few fall pigs for sale. Sired by "The Wolverine" a grandson of "The Rainbow and Big Bob" the greatest yearling boar I ever owned has size combined with quality. Come and see the real kind. W. E. LIVINGSTON, Parma, Mich.

Large Type P. C.

The Real Kind. A few of those big, smooth, stretchy, bred gilts for sale. Bred for March, April and May farrow. Priced right. N. F. BORNOR, Parma, Mich.

Large Type Poland Chinas

For sale Fall Boars, Gilts bred or open. Herd headed by two Grand Champion boars.

A. A. FELDCKAMP, Manchester, Mich.

B. T. P. C. Fall Sows, Big Bob and Peace and a son of Alaska. M. C. Mount, Mayville, Mich.

Large Strain P. C. 2 nice gilts with pigs by side, also pigs at weaning time. H. O. SWARTZ, Schoolcraft, Mich.

WALNUT ALLEY Big Type Poland China Boar pigs ready for new homes. Give me a chance to tell you about them. A. D. Gregory, Ionia, Mich.

Lone Maple Farm L. T. P. C. Spring pigs ready. Also yr. boar. Write for description and prices. F. R. Davis & Son, Belding, Mich.

Large Type P. C. Pigs for sale. Registered \$15. Enquire Sunnyside Farm, Hillman, Mich.

Hampshires A few bred gilts left. Place your order now for your boar pig. Pairs not akin. 10th year. JOHN W. SNYDER, R. 4, St. Johns, Mich.



THE LATEST MARKET REPORTS



GRAIN QUOTATIONS

Monday, July 16.

Wheat.

Detroit.—No. 2 red \$1.10½; No. 2 mixed \$1.10½; No. 2 white \$1.10½.
Chicago.—July 97c; September 96½c; December 99½c; 99½c.
Toledo.—Cash \$1.05@1.06.

Corn.

Detroit.—Cash No. 2 yellow 92½c; No. 3, 91½c; No. 4, 89½c.
Chicago.—July 82½c; September 84½c; December 86½c.

Oats.

Detroit.—Cash No. 2 white at 46½c; No. 3, 45½c; No. 4, 44½c.
Chicago.—July 38½c; September 34c; December 35½c.

Beans.

Detroit.—Immediate and prompt shipments \$5.50 per cwt.
Chicago.—Choice 6.25; red kidneys at \$7.50.

New York.—Choice pea at \$6.50@7; red kidneys \$7.50@7.75.

Rye.

Detroit.—Cash No. 2, 67½c.
Chicago.—July 61½c; September 64c; December 67½c.

Barley.

Detroit.—Malting 70c; feeding 66c.

Seeds.

Detroit.—Prime red clover cash at \$10; alsike \$9; timothy \$3.30.

Hay.

Detroit.—No. 1 timothy \$17.50@18; light mixed \$17@17.50; No. 2 timothy \$15.50@16.50; No. 1 clover at \$14@15; No. 1 clover mixed \$15@16; straw at \$11@11.50.

Feeds.

Bran \$30; standard middlings \$34; fine do \$36@36.50; cracked corn \$41; coarse cornmeal \$39.50; chop \$34.50@35 per ton in 100-lb sacks.

Fruit.

Apples.—Chicago, Transparents and Duchess \$2.25 per bushel.
Strawberries.—16-qt case, Michigan, good \$1.25.

Cherries.—Chicago, Michigan 16-qt cases \$1.25@1.50; light sweet \$1@1.25 per 16-qt case.

Berries.—Chicago, blackberries at \$2.50@2.75 per 16-qt case; gooseberries \$2@2.25; black raspberries \$2@2.25; red raspberries \$2.50@2.75 per 24-pt case; currants at \$1.50@1.75 per 16-qt case.

WHEAT

Wheat prices declined again last week, the July delivery breaking below the dollar mark at Chicago, and reaching practically the lowest point since 1914. Increasing receipts of new crop wheat, greater hedging pressure, limited sales, dull flour trade, failure of rust damage to develop serious proportions in the northwest estimates of a huge Canadian crop, and bearish sentiment were elements in the decline. The department of agriculture estimates the winter wheat crop at 586,000,000 bushels and spring wheat at 235,000,000 bushels, making a total of 821,000,000 bushels compared with 862,000,000 bushels harvested in 1922. The combined carry-over on farms, at country mills and elevators, and in the visible supply is 20,000,000 bushels larger than last year. Adding the new crop, the total available for the crop year is 21,000,000 bushels less than in 1922 and indicates an exportable surplus of 200,000,000 to 225,000,000 bushels.

RYE

The rye crop has deteriorated in the last month, the July forecast being 68,700,000 bushels compared with 72,500,000 bushels a month ago and 95,500,000 bushels harvested last year.

CORN

While the acreage planted to corn was sharply reduced in the cotton belt it was increased in most other sections and the total for the entire country is larger than last year. The average condition, according to the government's report, was slightly below normal. Cash demand is broad as industries are expanding operations and purchases by feeders are rather persistent. Prices at Chicago are only twelve to fifteen cents lower than wheat and are the highest of the season. The committee of economists considering the agricultural outlook pointed out the probability of a corn

shortage in 1924. Receipts of corn at primary markets have been gradually increasing. While they were lighter last week, producers have been selling more freely in the last few days. The visible supply is abnormally small and arrivals have not been sufficient to prevent further withdrawals from it.

OATS

Oats prices declined to a new low level last week. They are cheap compared with corn or hay, producers are not offering new oats freely and the visible supply is only 7,885,000 bushels compared with 42,400,000 bushels last year. The new crop is estimated at 1,284,000,000 bushels compared with 1,201,000,000 bushels last year and an average of 1,378,000,000 bushels from 1917 to 1921.

SEEDS

Recent bargain prices for red clover seed attracted buyers and values moved up slightly last week. Crop prospects are a little less favorable for both timothy and red clover, according to late reports.

FEEDS

Mill feed markets are easy and prices are declining. Demand from the interior is dull, especially for future delivery. Bran for shipment in August, September and October is quoted at a discount of \$1.50 under prompt shipment. Stocks of all feeds appear ample.

HAY

Conditions of the hay crop on July 1 was officially estimated at 81.1 compared with 88.7 last year and an average of 85.5 in the five years, 1917 to 1921. With a small reduction in the acreage, the crop forecast is 99,000,000 tons compared with 113,000,000 tons last year. As last year's crop was well cleaned up and live stock production is increasing rather than decreasing, demand should be fairly broad during the next twelve months. The receipts of hay at northeastern and central western markets are light and barely sufficient to supply the demand. Prices are holding firm.

POULTRY AND EGGS

Although surplus stocks of 402,000 cases of eggs on July 1 as compared with a year ago were shown by the preliminary report, dealers are still taking additional supplies of fresh eggs for storing purposes. Receipts

are gradually decreasing and the supply of good eggs is not sufficient for requirements so that prices for them are higher. Undergrades move more slowly at comparatively easy prices.

Chicago.—Eggs miscellaneous 22@22½c; dirties 19@19½c; checks 19@20c; fresh firsts 23@23½c; ordinary firsts 21@21½c. Live poultry, hens at 21½c; broilers 28@31c; roosters 12c; ducks 23c; geese 21c; turkeys 20c.

Detroit.—Eggs, fresh candled and graded 23@24c. Live poultry, broilers 38@42c; heavy hens 25c; light hens 20c; roosters 14c; geese 12c; ducks at 20@26c.

POTATOES

The potato acreage was reduced ten per cent this year according to the government's estimate and the July forecast is for a yield of 382,000,000 bushels, compared with 451,000,000 bushels last year. The average from 1917 to 1921 was 388,000,000 bushels. The New England states will have a larger crop than last year while New York, Pennsylvania, Michigan, Wisconsin, North Dakota and Idaho all show sharp reductions. Shipments of potatoes from producing sections are fairly large. Irish Cobblers are now quoted at \$5.50@6.25 a barrel and Bliss Triumphs at \$2.25@2.75 per 100 pounds in northern consuming markets.

BUTTER

Light receipts of top scores of butter insufficient to meet the demand for storage succeeded in maintaining the prices on a firm basis last week. Toward the close, as receipts increased the market became easier. The shortage of nearly 5,000,000 pounds in cold storage holdings on July 1 as compared with July 1, 1922, shown by the preliminary report is being reduced with some prospect that on August 1 holdings will be on nearly even terms with last year. This speculative demand will tend to prevent any sharp decline in the immediate future.

Prices on 92-score were: Chicago 37c; New York 39c. At Detroit fresh creamery in tubs sells for 35@36½c.

BEANS

The July 1 forecast of the bean crop for the entire United States is 15,000,000 bushels compared with 11,893,000 bushels last year and a 1917-1921 average of 13,000,000 bushels. Michigan plantings are placed at 568,000 acres, the largest record, and an increase of 32 per cent over last year. With a

July 1 condition in Michigan of 91 compared with a ten-year average of 87, the crop forecast is 6,719,000 bushels against 4,809,000 bushels last year.

Bean prices were slightly lower last week partly as a result of the estimated increase in the crop. A little business is passing but trade is relatively dull. Choice hand-picked whites are quoted at \$5.75 per 100 pounds f. o. b. Michigan points for quick shipment, \$5.65 for prompt shipment, \$5.60 for September shipment and \$5.40 for October shipment.

WOOL

Wool markets are quiet with buyers and sellers playing a waiting game. The downward trend seems to have been halted. A few sales are being made in the producing sections and also in seaboard markets but growers are reluctant to sell at the lower prices being offered and many in the west are consigning. Prices on lightweight goods are to be announced soon. The market will probably be dull until the response of cloth buyers to the higher values on such goods compared with last year has been determined.

The Boston quotations are as follows: Michigan and New York fleeces delaine unwashed 55@56c; fine unwashed 49@50c; half-blood unwashed 55@56c; three-eighths blood unwashed 55@56c; quarter-blood unwashed 51@52c.

APPLES

The commercial apple crop is estimated at 33,100,000 barrels compared with 31,000,000 barrels last year and an average of 25,700,000 barrels from 1917 to 1921. Shipments of summer apples are increasing rapidly, the total for the week ending July 7 being 348 cars compared with 91 cars in the preceding week.

PEACHES.

The peach crop is estimated at 48,400,000 bushels compared with 56,700,000 bushels last year and 1919-1921 average of 42,700,000 bushels. Shipments of peaches are increasing with some cars coming from as far north as Maryland.

DETROIT CITY MARKET

The market has been very active, with plenty of produce and a good demand. Fruits were a little slow and so were carrots, cabbage and turnips. But beans, potatoes, radishes and spinach were active. Asparagus was bringing \$1.50@2 per dozen bunches; string beans \$2@4 per bu., depending on the quality; beets 40@75c per dozen bunches; cabbage 65c@\$1 per bushel; cherries \$3.75@4.50 per 24-qt case; currants \$3.75@4.50 per case; eggs 30@40c per dozen; gooseberries \$4 per 24-qt case; leaf lettuce 35@70c per bushel; green onions 25@60c per doz. bunches; peas \$1.25@3.50 per bushel; live poultry 25@30c per pound; potatoes 50c@\$1.25; radishes 35c@\$1 per dozen bunches; strawberries \$4@7 per 24-qt case.

BUSINESS CONDITIONS TWO-SIDED.

Business conditions retain the two-faced character which they have had in recent weeks. A relatively high rate of activity in manufacture and in current distribution is maintained, but there is a great degree of caution as to the future and a marked unwillingness to make commitments very far ahead.

While manufacturers and distributors lack confidence as to the future, their failure to stock up shelves means that new orders for goods will be forthcoming soon and tends to keep business in a healthy condition. A decisive setback is practically impossible in the absence of extensive forward commitments.

The committee of economists selected by Secretary Wallace of the Department of Agriculture to report on the agricultural outlook says that "our credit position is unusually strong and more than equal to any demands which may be made upon it in the crop moving season."

LIVE STOCK SALE.

Herefords.

July 26—L. Whitney Watkins, Manchester, Mich.

Live Stock Market Service

Monday, July 16.

DETROIT

Cattle.

Receipts 1,349. Canners and bulls steady; all others 50c lower; quality common.
Fancy light yearlings... \$9.50@10.00
Best heavy steers... 9.00@9.50
Handyweight butchers... 7.50@8.00
Mixed steers and heifers... 6.50@7.00
Handy light butchers... 6.00@6.50
Light butchers... 5.25@5.50
Best cows... 5.50@5.75
Butcher cows... 4.00@5.00
Cutters... 2.50@3.00
Canners... 2.00@2.50
Choice bulls... 5.50@6.50
Bologna bulls... 5.00@5.50
Stock bulls... 4.00@5.00
Feeders... 5.50@6.25
Stockers... 5.00@5.75

Sheep and Lambs

Receipts 331. Market steady.
Best lambs... \$14.50@15.00
Fair lambs... 12.00@13.00
Light to common... 9.00@11.00
Fair to good sheep... 5.00@6.00
Culls... 1.50@2.50

Veal Calves.

Receipts 795. Market is steady on good; poor on common. Will close \$1 lower.
Best... \$13.00@13.50
Others... 7.00@12.50

Hogs.

Receipts 1,272. Market steady.
Mixed hogs and yorkers... \$8.00
Pigs... 7.40
Heavies... 7.50
Roughs... 5.85

CHICAGO

Hogs.

Receipts 57,000. Market on the good kinds active, 10@20c higher; others strong to unevenly higher. Average bulk good choice 160 to 240-lb, \$7.60@7.70; tops at \$7.75; bulk 250 to 350-lb. butchers \$7.25@7.50; packing sows mostly \$6@6.35; best strong weight pigs around \$7.

Cattle.

Receipts 27,000. Market mostly killing classes slow, unevenly weak to 25c lower; choice classes medium to good yearlings predominating; part load of mature steers \$11.75; some held higher; canners, cutters, bulls and choice fat cows steady to weak; bidding 50c lower on calves; stockers are scarce and steady.

Sheep and Lambs.

Receipts 20,000. Market generally steady; early top western lambs at \$14.90; bulk of good natives at \$14@14.25; culls mostly \$8.50; California clipped lambs \$13.75; bulk of medium and heavy weight ewes at \$5@6.50; heavies \$4.

BUFFALO

Cattle.

Receipts 10 cars. Market is slow. Calves at \$14.

Hogs.

Receipts 20 cars. Market is slow. Heavy \$7.90@8; yorkers and pigs at \$8.25@8.40.

Sheep and Lambs.

Receipts one car. Trade is steady. Top lambs at \$16; yearlings \$12@13; wethers \$7.50@8.50; ewes \$4@7.

ACREAGE IN AMERICAN CROPS AS COMPARED WITH 1922.

THE following figures will give our readers the estimated acreage of staple crops in the United States as made by the various correspondents of the Federal Crop Reporting Board. A percentage comparison with the acreage for 1922 is also made. Here are the figures:

Crop	Per Ct. 1922.	Acres. 1923.
Winter wheat	94.4	39,750,000
Spring wheat	94.9	18,503,000
All wheat	94.5	58,253,000
Corn	100.7	103,112,000
Oats	101.1	40,768,000
Barley	108.0	7,980,000
Rye	84.3	5,234,000
Potatoes	89.9	3,892,000
Hay, all	98.7	76,031,000

CROP REPORTERS ESTIMATE 1923 CROPS.

ON July 1 of each year Federal Crop Reporters make production estimates of the various major crops grown in the country. Here are the figures for 1923 compared with production in 1922, and with the five-year average from 1917 to 1921 inclusive. The figures are given in millions of bushels; to get the number of bushels, therefore, simply add six ciphers to the right of each number.

	1917-21 Average	1922 Estimate	July 1 Forecast
Wint'r wh't	590	586	586
Sp'ng wh't	245	276	235
All wheat	835	862	821
Corn	2,931	2,891	2,877
Oats	1,378	1,201	1,284
Barley	192	186	198
Rye	70.3	95.5	68.7
Potatoes	388	451	382
Hay, all, tons	99.5	113	99.0
Apples, total	160	201	189
com'l, bbls	25.7	31.0	33.1
Peaches, total	42.7	56.7	48.4

CROP PROSPECTS LESS.

DECREASED production as compared with the five-year average is shown in the case of wheat, corn, oats and rye in the July crop report issued by the United States Department of Agriculture. This is interpreted by some economists as indicating that farmers are endeavoring to solve the problem of low farm prices of agricultural products by reducing production.

The report shows a very short hay crop in all the leading dairy states outside of New England. The hay crop in Michigan is 3,526,000 tons, as compared with 4,457,000 tons in 1922. Seven middle west states have an estimated hay crop of 27,654,000 tons, as compared with 37,183,000 tons in 1922.

This hay shortage will undoubtedly have a marked influence not only upon the price of hay next winter but upon all dairy products.

There will be a much smaller potato crop than last year. There is a heavy drop in acreage, especially in states that found difficulty in disposing of last year's crop. The percentage of last year's acreage in the whole country is 89.9 per cent; in New England, 94; New York, 95; New Jersey, 84; Pennsylvania, 98; Michigan, 89; Wisconsin, 83; Minnesota, 82; North Dakota, 75; Colorado, 90; and Idaho 70 per cent.

CROP INSURANCE RECOMMENDED.

THAT the insurance of crops is feasible and urgently needed for the protection of farmers is the opinion of officials of the department of agriculture after making a careful study of the subject. These men say that in the light of progress made by insurance leaders in other fields, it is hard to believe that adequate crop insurance facilities will remain long undeveloped.

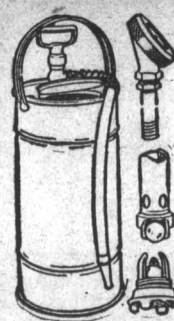
This investigation was made at the instance of the United States Senate.

Hearings will be held on the subject next December. Definite conclusions have not been reached as to the form of organization needed to provide the desired protection. The scope of the work, however, seems to make it necessary that it be a government enterprise. Mutual associations of farmers may be required.

MICHIGAN FAIR DATES, 1923.

Allegan County Agricultural Society, Allegan, Aug. 28-31.
Arenac County Agricultural Society, Standish, Sept. 18-21.
Armada Agricultural Society, Armada, Sept. 18-21.
Calhoun County Agricultural Association, Marshall, Sept. 18-21.
Caro Fair and Night Carnival, Caro, Aug. 20-24.
Cheboygan County Fair, Wolverine, Sept. 25-28.
Chippewa County Fair, Sault Ste. Marie, Sept. 10-13.
Chippewa & Mackinac District Agricultural Society, Pickford, Sept. 17-19.
Clare County Agricultural Association, Harrison, Sept. 18-21.
Clinton County Fair, St. Johns, Sept. 3-6.
Copper County Fair, Houghton, Sept. 25-29.
Croswell Agricultural Society, Croswell, Sept. 11-14.
Delta County Agricultural Society, Escanaba, Sept. 18-21.
Dickinson County Menominee Range Agricultural Society, Norway, Aug. 31-Sept. 3.
Eaton County Agricultural Society, Charlotte, Sept. 25-28.
Emmet County Fair, Petoskey, Sept. 11-14.
Genesee County Fair, Davison, Aug. 27-31.
Gogebic County Fair and Agricultural Association, Ironwood, Aug. 28-31.
Grange Fair of St. Joseph County, Centerville, Sept. 17-22.
Grangers', Gleaners' and Farmers' Fair, Big Rapids, Sept. 25-29.
Gratiot County Agricultural Society, Ithaca, Aug. 28-Sept. 1.
Hillsdale County Agricultural Society, Hillsdale, Sept. 24-29.
Huron County Fair, Bad Axe, Aug. 28-31.
Imlay City Fair, Imlay City, Sept. 11-14.
Ionia Free Fair, Ionia, Aug. 14-17.
Iosco County Fair, Tawas City, Sept. 11-14.
Isabella County Agricultural Society, Mt. Pleasant, Sept. 4-8.
Jackson County Agricultural Society, Jackson, Sept. 10-15.
Lenawee County Fair, Adrian, Sept. 17-21.
Livingston County Fair Association, Howell, Aug. 28-31.
Luce County Fair, Newberry, Sept. 4-6.
Mackinac County Fair Association, Allenville, Sept. 20-22.
Marquette County Agricultural Society, Marquette, Sept. 10-15.
Mason County Central Fair Association, Scottville, Sept. 12-14.
Michigan State Fair, Detroit, Aug. 31-Sept. 9.
North Branch Fair Society, North Branch, Sept. 18-21.
Northwestern Michigan Fair Association, Traverse City, Sept. 17-21.
Northeastern Michigan Fair Association, Bay City, Aug. 27-31.
Oakland County Fair, Milford, Sept. 12-15.
Oceana County Agricultural Society, Hart, Sept. 18-21.
Ogemaw County Fair, West Branch, Sept. 5-7.
Otia Fair Association, Brahma, Sept. 15.
Otsego County Fair, Gaylord, Sept. 18-21.
Presque Isle County Fair, Millersburg, Sept. 12-14.
St. Clair County Agricultural Society, Yale, Sept. 25-28.
Saginaw County Agricultural Fair, Saginaw, Sept. 10-16.
Sanilac County Agricultural Society, Sandusky, Sept. 4-7.
Schoolcraft County Agricultural Society, Manistique, Sept. 25-27.
Shiawassee County Fair, Owosso, Aug. 21-24.
South Ottawa & West Allegan Agricultural Society, Holland, Sept. 11-14.
Stalwart Fair Association, Stalwart, Oct. 4-5.
Tuscola, Huron and Sanilac District Fair, Cass City, Aug. 14-17.
Van Buren County Fair, Hartford, Sept. 25-29.
Washtenaw County Fair, Ann Arbor, Sept. 18-22.
Wayne County Fair, Northville, Sept. 25-29.
West Michigan Fair, Grand Rapids, Sept. 17-21.

\$10.00 Worth of Spraying Equipment \$4.65



Pumps made to U. S. Army specifications for fire protection in army barracks. They are new, never been used after testing and guaranteed. Five-gallon steel tank, double galvanized, made strong for soldier service. Ribbed bail at top, lifting handle at bottom. The pump part alone is worth the whole price. Pump is heavy brass tubing, with strainer and brass ball valve. The plunger is 3/4 inch brass tubing, with brass ball suck, and a man's size malleable handle. Brass fittings throughout, 3/8 inch hose with solid stream nozzle, as shown.

Throws Powerful Stream 40 Feet. With each pump we send FREE Brown's Non-Clog Auto Spray Nozzle, with four disks. Makes it equal to spray outfits costing \$10.00 to \$15.00. Endorsed and recommended by state and county agricultural agents.

Only a Limited Supply—Order Yours Today. There's a hundred uses for this outfit. Fire protection about the house and barn, washing automobiles or windows, white-washing and painting, spraying stock, stables, chicken houses, growing crops, flowers, small fruits, and with extension, for trees. Shipped Parcel Post, C. O. D. at the bargain price of \$4.65. Our supply is limited—first come, first served. Mail your order today. Army Supply Co., 41 U. S. Trust Bldg., Louisville, Ky.

CLASSIFIED ADVERTISING

This classified advertising department is established for the convenience of Michigan farmers. Small advertisements bring best results under classified headings. Try it for want ads and for advertising miscellaneous articles for sale or exchange. Poultry advertising will be run in this department at classified rates, or in display columns at commercial rates. Rates 8 cents a word, each insertion, on orders for less than four insertions; for four or more consecutive insertions 6 cents a word. Count as a word each abbreviation, initial or number. No display type or illustrations admitted. Remittances must accompany order. Real estate and live stock advertising have separate departments and are not accepted as classified. Minimum charge, 10 words.

Rates in Effect October 7, 1922

Words	One time	Four times	Words	One time	Four times
10	\$0.80	\$2.40	26	\$2.08	\$6.24
11	.88	2.64	27	2.16	6.48
12	.96	2.88	28	2.24	6.72
13	1.04	3.12	29	2.32	6.96
14	1.12	3.36	30	2.40	7.20
15	1.20	3.60	31	2.48	7.44
16	1.28	3.84	32	2.56	7.68
17	1.36	4.08	33	2.64	7.92
18	1.44	4.32	34	2.72	8.16
19	1.52	4.56	35	2.80	8.40
20	1.60	4.80	36	2.88	8.64
21	1.68	5.04	37	2.96	8.88
22	1.76	5.28	38	3.04	9.12
23	1.84	5.52	39	3.12	9.36
24	1.92	5.76	40	3.20	9.60
25	2.00	6.00	41	3.28	9.84

Special Notice

All advertising copy discontinuance orders or change of copy intended for the Classified Department must reach this office ten days in advance of publication date.

MISCELLANEOUS

LEAF TOBACCO, five pounds chewing \$1.75; ten, \$3.00; twenty, \$5.25; five pounds smoking \$1.25; ten, \$2.00; twenty, \$3.50. Pipe and Recipe free. Send no money, pay when received. United Tobacco Growers, Mayfield, Ky.

NATURAL LEAF TOBACCO, Chewing 5 lbs., \$1.75; 10 lbs., \$3.00. Smoking 5 lbs., \$1.25; 10 lbs., \$2.00. Pay when received, pipe and recipe free. Farmers Co-operative Tobacco Union, Paducah, Ky.

TOBACCO—Extra Smoking, 5 lbs., \$1.00; 10 lbs., \$1.50; 20 lbs., \$2.75. Chewing, 5 lbs., \$1.50; 10 lbs., \$2.75. Quality guaranteed. O'Connor Smokehouse, S-133, Mayfield, Ky.

FOR SALE Steam Trashing Machine Engine used 2 years. Grain and bean machines in fair condition. Will sell reasonable. George Beadore, R. 4, Pinconning, Mich.

MONEY TO LOAN ON FARMS, 6% interest. No commission. No mortgage tax. Security Mortgage Corporation, 1018 Majestic Building, Detroit.

DOGS

SCOTCH COLLIE puppies from registered stock. Robert Stewart, Britton, Mich.

The Real Estate Market Place

Special discount given when used in combination with 7 other Capper Publications. Write for special real estate advertising rates on these papers which reach over a million and a half families.

PAY NO ADVANCE FEE; don't give option or tie up real estate for any kind of contract without first knowing those you are dealing with are absolutely honorable, responsible and reliable.

Equipped 80 Acres, Horse, 3 Cows, 300 Poultry.

65 Ducks, farm tools, growing crops, only 2 miles to town with U. R. depot, high school, churches, stores, other advantages: 35 acres loamy tillage, 15 acres woodland, 30 acres lake watered, wire fenced pasture, 44 apple trees, other fruit; 5 room cottage painted, good cellar, large shade, pleasant view overlooking good neighbors. 60 ft. barn, granary, poultry house, etc. for quick sale owner makes sacrifice price of \$3,500.00 for all, small cash payment, easy terms. Write or see Chas. Oatman, Holt, Mich. or MICHIGAN FARM AGENCY, 628 Ford Bldg., Detroit.

50c ACRE CASH: 50c ACRE MONTHLY BUYS TEXAS—ARKANSAS grazing, oil, farm, or timber land. Get particulars. No obligation. Gulf Realty Company, 1021 Bedell Bldg. San Antonio, Texas

Sell Your Farm by my quick and easy method. It brings cash buyers. Send for particulars. Albert J. Shirley, Box 386, Kalamazoo, Mich.

SPEND YOUR VACATION in Colorado. Write for illustrated booklet describing "Wonder Trip Through Heart of the Rockies". Chamber of Commerce, Grand, Junct. Colo.

Farm Wanted Sell your farm quick for cash. New method, small expense. Weaver Sales Co. Majestic Bldg. Dept. 6, Detroit, Mich.

25 ACRES in Ferry to Sell or exchange for Automobile. Consider anything but an Overland. D. Ward, Ada, Mich. R. 4.

For Sale 40 A. farm, good soil, large orchard, good frame bldgs., good water, near good fishing and hunting. \$2,800.00. Bert Fales, Sterling, Mich.

Send for new land bargains. We have what you want. Jenkins and Jones, Ava, Mo.

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

FARM WANTED—Immediately, send particulars MR. ADAMS, 629 Chestnut St. St. Louis, Mo.

RATES

For Real Estate Advertising On This Page

35c a line per issue on 4 time orders
40c a line per issue on 1 time orders

Special discount given when used in combination with 7 other Capper Publications. Write for special real estate advertising rates on these papers which reach over a million and a half families.

For Sale - by Owner

Improved Farms—Tracts 40 to 1000 Acres in OKLA., ARK., LA., N. MEX., Small cash payment, balance on time, low interest rate. Buy now while lands are cheap. Lands are already going up. Send for booklet describing 200 Farms.

American Investment Company

Oklahoma City, 603 Colcord Bldg., Okla.

For Sale or Trade for Farm. Seven apt. house located in Jackson, Mich. Rental \$25. per month. Give description, price, taxes and incumbence in answer. JOSEPH J. MARTIN, R. D. 3, Albion, Mich.

Poor Man's Chance \$5 down, \$5 monthly buys 40 acres productive land near town. Some timber. Price \$225. Other bargains. Box 425-Z, Carthage, Mo.

80 Acres Improved \$65 per acre \$1000 cash. 160 acres improved \$67.50 per acre \$1000 cash. THE ALLEN COUNTY INVESTMENT CO., Iola, Kansas.

CASH YOUR PROPERTY QUICKLY, location immaterial. Give best price. Universal Sales Agency, Box 43, N. Topeka, Kans.

Want to hear from party having farm for sale. Give particulars and lowest price. JOHN J. BLACK, Capper St., Chippewa Falls, Wis.

IF YOU WANT TO LIVE in California, write Kings County Chamber of Commerce, Hanford, California, for free booklet.

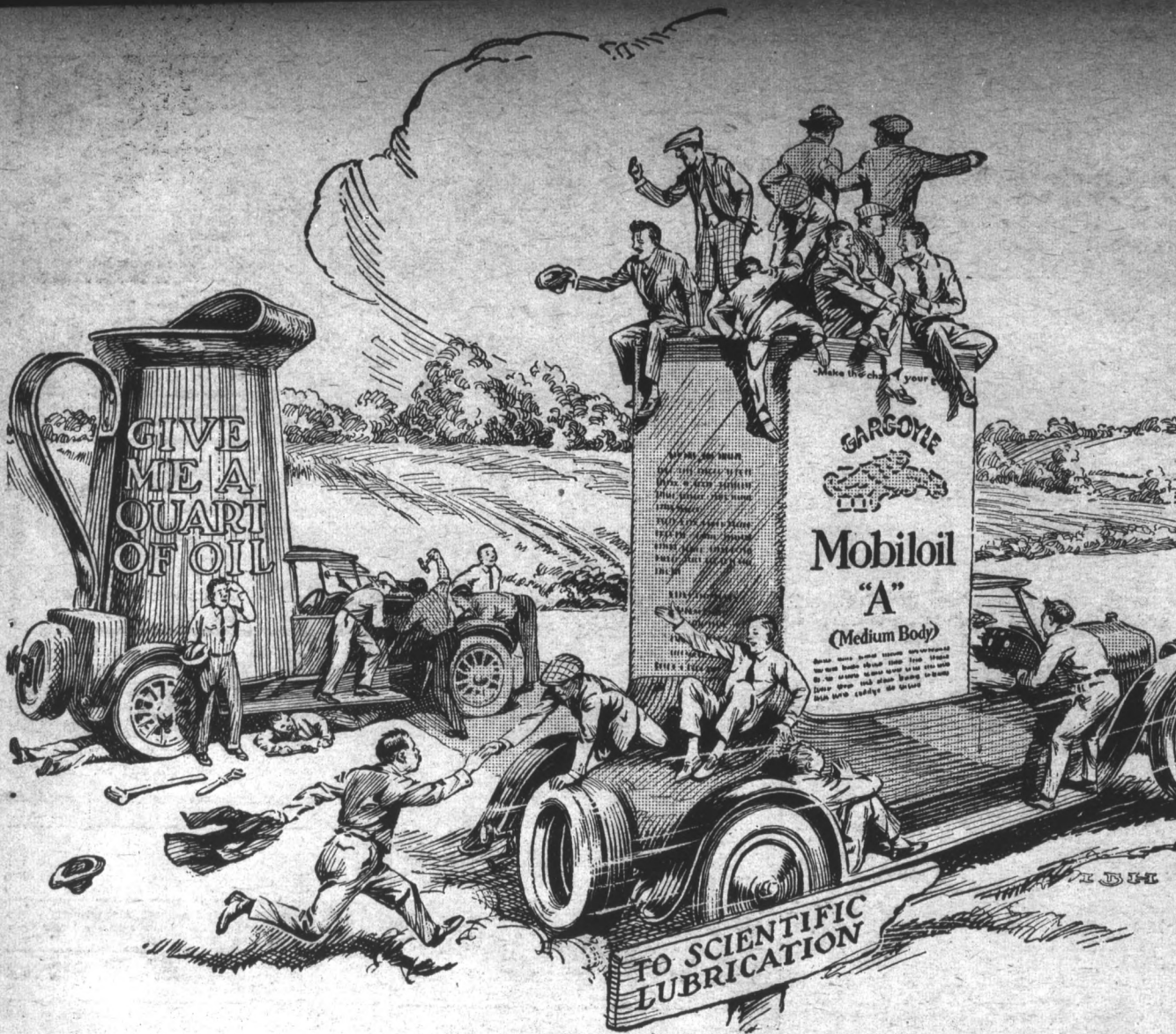
FOR SALE Southeastern Colorado—irrigated and non-irrigated farms and ranches. Write for free information. Greer Realty Company, Lamar, Colorado.

Sell your property quickly for cash, no matter how low. Particulars free. Real Estate Salesman Co., 515 Brownell, Lincoln, Neb.

Good farm for sale 76 1/2 Acres. Good building, 150 fruit trees 1/4 mile to large store, two churches, & school. Write C. W. Shanafelt, Ewart, Mich.

Farm Wanted Near school; at spot cash price. Mean business. Fuller, Wichita, Ka.

WANTED buyer for improved irrigated farm by J. L. Felton, Eden, Idaho.



Changing—changing—changing— to “Give me Gargoyle Mobiloil”

AND WHY!

The typical American motorist realizes today as never before that “Give me a Quart of Oil” does not insure either a trouble-free engine or low operating and maintenance costs.

And so motorists in larger numbers than ever before are asking for Gargoyle Mobiloil. They have discovered that real economy depends not upon cost per quart, or per gallon, but upon cost-per-mile and cost-per-year. They refuse to pour “just oil” into their crankcases because they know it results in at least 50% of all engine troubles.

Result: There are more specific requests for Gargoyle Mobiloil than for any three other oils combined. The sale of Gargoyle Mobiloil is more national in its scope than the combined sales of any other two oils.

A marked swing to the purchase of Gargoyle

Mobiloil in the sealed containers is reported by garage men.

A marked majority of automobile engineers and service managers approve Gargoyle Mobiloil as correct for the cars in which they are interested.

In short, America is waking up to the necessity of scientific, economical lubrication. And once awake, motorists turn to the Chart of Recommendations—find the correct grade of Gargoyle Mobiloil for their cars—and then make sure that they get it.

By-product oils won't do

The growing change to “Give me Gargoyle Mobiloil” has been hastened also by the motorist's knowledge that 9 out of 10 oils are mere gasoline by-products.

And motorists know that behind Gargoyle Mobiloil is a distinct policy of specialization. Gargoyle Mobiloil is produced by lubrication specialists and from crude stocks chosen for their lubricating value.

“Give me Gargoyle Mobiloil” means “Give me specialized lubrication.”



Mobiloil

Make the chart your guide

Address our
nearest branch:

New York (Main Office) Boston Chicago Philadelphia Detroit Pittsburgh
Indianapolis Minneapolis St. Louis Dallas Kansas City, Mo.
Milwaukee Buffalo Rochester

Fair Retail Price
30c a Quart

When the dealer sells a quart of Gargoyle Mobiloil for less than 30c, he does not make his fair, reasonable profit.

Lower prices often accompany substitution of low-quality oil for genuine Gargoyle Mobiloil.

Prices are slightly higher in Canada, the Southwest, and the Far West.

Chart of Recommendations

(Abbreviated Edition)

THE correct grades of Gargoyle Mobiloil for engine lubrication of both passenger and commercial cars are specified in the Chart below.

A means Gargoyle Mobiloil “A”
B means Gargoyle Mobiloil “B”
BB means Gargoyle Mobiloil “BB”
E means Gargoyle Mobiloil “E”
Arc means Gargoyle Mobiloil Arctic

Where different grades are recommended for summer and winter use, the winter recommendation should be followed during the entire period when freezing temperatures may be experienced.

This Chart of Recommendations is compiled by the Vacuum Oil Company's Board of Automotive Engineers, and represents our professional advice on correct automobile lubrication.

NAMES OF AUTOMOBILES AND MOTOR TRUCKS	1923		1922		1921		1920		1919	
	Summer	Winter	Summer	Winter	Summer	Winter	Summer	Winter	Summer	Winter
Buick	A	Arc	A	Arc	A	Arc	A	Arc	A	Arc
Cadillac	A	A	A	A	A	A	A	A	A	A
Chalmers	A	A	A	A	A	A	A	A	A	A
Chandler Six	A	A	A	A	A	A	A	A	A	A
Chevrolet (8 cyl.)	A	A	A	A	A	A	A	A	A	A
“ (Copper Cooled) ”	A	A	A	A	A	A	A	A	A	A
“ (Mod. 490 G&L Del.) ”	A	A	A	A	A	A	A	A	A	A
“ All Other Models ”	A	A	A	A	A	A	A	A	A	A
Cleveland	A	A	A	A	A	A	A	A	A	A
Cole	A	A	A	A	A	A	A	A	A	A
Day Elder (2½ ton)	A	A	A	A	A	A	A	A	A	A
“ (5 ton) ”	A	A	A	A	A	A	A	A	A	A
“ All Other Models ”	A	A	A	A	A	A	A	A	A	A
Denby	A	A	A	A	A	A	A	A	A	A
Dodge Brothers	A	A	A	A	A	A	A	A	A	A
Dort	A	A	A	A	A	A	A	A	A	A
Duesenberg	A	A	A	A	A	A	A	A	A	A
Durant Four	A	A	A	A	A	A	A	A	A	A
Earl	A	A	A	A	A	A	A	A	A	A
Elcar “ (4 cyl.) ”	A	A	A	A	A	A	A	A	A	A
“ (6 cyl.) ”	A	A	A	A	A	A	A	A	A	A
Essex	A	A	A	A	A	A	A	A	A	A
Federal (Mod. X-2)	A	A	A	A	A	A	A	A	A	A
“ All Other Models ”	A	A	A	A	A	A	A	A	A	A
Ford (Com'l)	E	E	E	E	E	E	E	E	E	E
Four Wheel Drive	A	A	A	A	A	A	A	A	A	A
Franklin	BB	BB	BB	BB	BB	BB	BB	BB	BB	BB
Gardner	A	A	A	A	A	A	A	A	A	A
Garford (1½ ton)	A	A	A	A	A	A	A	A	A	A
Garford (1½-3½ ton)	A	A	A	A	A	A	A	A	A	A
“ (2-2½ ton) ”	A	A	A	A	A	A	A	A	A	A
“ All Other Models ”	A	A	A	A	A	A	A	A	A	A
G. M. C. (K15)	B	A	B	A	B	A	B	A	B	A
“ (K16, K41, K71, K101) ”	A	A	A	A	A	A	A	A	A	A
“ All Other Models ”	A	A	A	A	A	A	A	A	A	A
Grant (Cont. Eng.)	A	A	A	A	A	A	A	A	A	A
“ All Other Models ”	A	A	A	A	A	A	A	A	A	A
Gray	A	A	A	A	A	A	A	A	A	A
Hahn (1 ton)	A	A	A	A	A	A	A	A	A	A
“ (Mod. M2 & 6 ton) ”	A	A	A	A	A	A	A	A	A	A
“ All Other Models ”	A	A	A	A	A	A	A	A	A	A
Hal-Fur	A	A	A	A	A	A	A	A	A	A
Haynes (12 cyl.)	A	A	A	A	A	A	A	A	A	A
H. C. S.	A	A	A	A	A	A	A	A	A	A
Hudson Super Six	A	A	A	A	A	A	A	A	A	A
Hupmobile	A	A	A	A	A	A	A	A	A	A
Indiana (1 ton)	A	A	A	A	A	A	A	A	A	A
“ (1½ ton) ”	A	A	A	A	A	A	A	A	A	A
“ (2 ton) ”	A	A	A	A	A	A	A	A	A	A
“ (5 ton) ”	A	A	A	A	A	A	A	A	A	A
“ All Other Models ”	A	A	A	A	A	A	A	A	A	A
Jewett	A	A	A	A	A	A	A	A	A	A
Jordan	A	A	A	A	A	A	A	A	A	A
Kissel Kar.	A	A	A	A	A	A	A	A	A	A
Lexington (Cont. Eng.)	A	A	A	A	A	A	A	A	A	A
“ All Other Models ”	A	A	A	A	A	A	A	A	A	A
Lincoln	A	A	A	A	A	A	A	A	A	A
Locomobile	E	E	E	E	E	E	E	E	E	E
Marmion	A	A	A	A	A	A	A	A	A	A
Maxwell	A	A	A	A	A	A	A	A	A	A
“ (Com'l) ”	A	A	A	A	A	A	A	A	A	A
Meter	A	A	A	A	A	A	A	A	A	A
Moon	A	A	A	A	A	A	A	A	A	A
Nash (Com'l) (Quad.)	A	A	A	A	A	A	A	A	A	A
“ (1 & 2 ton) ”	A	A	A	A	A	A	A	A	A	A
“ All Other Models ”	A	A	A	A	A	A	A	A	A	A
National (Mod. 6-31)	A	A	A	A	A	A	A	A	A	A
“ (Mod. 6-51) ”	A	A	A	A	A	A	A	A	A	A
“ (12 cyl.) ”	A	A	A	A	A	A	A	A	A	A
“ All Other Models ”	A	A	A	A	A	A	A	A	A	A
Oakland	A	A	A	A	A	A	A	A	A	A
Oldsmobile (8 cyl.)	A	A	A	A	A	A	A	A	A	A
“ (6 cyl.) ”	A	A	A	A	A	A	A	A	A	A
“ All Other Models ”	A	A	A	A	A	A	A	A	A	A
Overland	A	A	A	A	A	A	A	A	A	A
Packard	A	A	A	A	A	A	A	A	A	A
Paige (Cont. Eng.)	A	A	A	A	A	A	A	A	A	A
“ (Com'l) ”	A	A	A	A	A	A	A	A	A	A
“ All Other Models ”	A	A	A	A	A	A	A	A	A	A
Peerless	A	A	A	A	A	A	A	A	A	A
Pease Arrow (2 ton)	A	A	A	A	A	A	A	A	A	A
“ All Other Models ”	A	A	A	A	A	A	A	A	A	A
Premier (6 cyl.)	A	A	A	A	A	A	A	A	A	A
Reo (Mod. T & U)	A	A	A	A	A	A	A	A	A	A
“ All Other Models ”	A	A	A	A	A	A	A	A	A	A
Rolls Royce	A	A	A	A	A	A	A	A	A	A
Stephens Salient Six	A	A	A	A	A	A	A	A	A	A
Suabaker	A	A	A	A	A	A	A	A	A	A
Vellie (Cont. Eng.)	A	A	A	A	A	A	A	A	A	A
“ All Other Models ”	A	A	A	A	A	A	A	A	A	A
Westcott (Mod. D-48)	A	A	A	A	A	A	A	A	A	A
“ All Other Models ”	A	A	A	A	A	A	A	A	A	A
Willys Knight	B	A	B	A	B	A	B	A	B	A
Winton	A	A	A	A	A	A	A	A	A	A

Makes of Engines

(recommendations shown separately for convenience)										
Buda (Mod. QU, QU TU)	A	A	A	A	A	A	A	A	A	A
“ (Mod. RU, WU) ”	A	A	A	A	A	A	A	A	A	A
“ All Other Models ”	A	A	A	A	A	A	A	A	A	A
Continental (Mod. B5)	A	A	A	A	A	A	A	A	A	A
“ (Mod. B2) ”	A	A	A	A	A	A	A	A	A	A
“ (Mod. T) ”	A	A	A	A	A	A	A	A	A	A
“ (Mod. 12 XD) ”	A	A	A	A	A	A	A	A	A	A
“ All Other Models ”	A	A	A	A	A	A	A	A	A	A
Falls	A	A	A	A	A	A	A	A	A	A
Hercules	A	A	A	A	A	A	A	A	A	A
Herschell-Spill'n (Mod. 90)	A	A	A	A	A	A	A	A	A	A
“ (Mod. 7,000 & 11,000) ”	A	A	A	A	A	A	A	A	A	A
Hinkley	A	A	A	A	A	A	A	A	A	A
Lycoming (C Series)	A	A	A	A	A	A	A	A	A	A
“ All Other Models ”	A	A	A	A	A	A	A	A	A	A
Midwest (Mod. 409)	A	A	A	A	A	A	A	A	A	A
“ (Mod. 410, 411, 412, 610) ”	A	A	A	A	A	A	A	A	A	A
“ All Other Models ”	A	A	A	A	A	A	A	A	A	A
Rochester	A	A	A	A	A	A	A	A	A	A
Waukesha CU DU EU FU	A	A	A	A	A	A	A	A	A	A
“ All Other Models ”	A	A	A	A	A	A	A	A	A	A
Weidley (Model R)	A	A	A	A	A	A	A	A	A	A
“ All Other Models ”	A	A	A	A	A	A	A	A	A	A
Wisconsin (Mod. Q & QU)	A	A	A	A	A	A	A	A	A	A
“ All Other Models ”	A	A	A	A	A	A	A	A	A	A

Transmission and Differential

For their correct lubrication, use Gargoyle Mobiloil “C” “CC” or Mobilubricant as recommended by complete Chart available at all dealers.

Tractor Lubrication

The correct engine lubricant for the FORDSON TRACTOR is Gargoyle Mobiloil “BB” in summer and Gargoyle Mobiloil “A” in winter. The correct oil for all other tractors is specified in our Chart. Ask for it at your dealer's.

VACUUM OIL COMPANY