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VOLUME CLXII NUMBER FIVE

DETROIT, FEBRUARY 2, 1924

CURRENT COMMENT

Humility should not necessarily lessen the knowledge we have of our own powers.

The man who cultivates a taste for reading will undoubtedly use better taste in cultivating his fields.

Perhaps the greatest knowledge a man can have is to know that he does not know.

The farmer is going forward, even if only "on low." It will be but a short time when he can probably "hit on high" again.

Safe Investments For Farmers

IT would be interesting to know the amount of money which the farmers of this state have invested in stocks of doubtful value through the efforts of smooth tongued stock salesmen during the period since the close of the war. It is safe to say that this amounts to many millions of dollars. An official of the National Association of Credit Men is authority for the statement that in a single state at least \$2,000,000 of farmers' money has been so invested during this period.

The farmers of this state bought their quota of liberty bonds during the war with generally less effort in the way of solicitation than was the case with the people of the cities and towns. In practically every liberty bond drive the strictly rural counties of the state were first in subscribing their quotas. It is a sad fact that these farm-owned liberty bonds proved a seductive bait for stock salesmen in every kind of enterprise imaginable, and a very large proportion of these securities were transferred to the pockets of smooth tongued salesmen for the purchase of stocks of every description, most of which are of far less value at the present time than the bonds turned in in payment for them, and many of which have proven to be entirely worthless to the investor.

The development of this new field of effort for stock salesmen has brought to the attention of farmers opportunities for investment of their savings, which are always placed before them in the most glowing terms, with promises for a dividend return far in excess of what might be reasonably expected or is ever realized, with the natural consequence that millions of dollars of country money have continued to be poured into these speculative channels.

Most of us farmers have been educated to the idea that big business

is far more profitable than farming, and this effort to get in on the profit of big business is but a natural consequence. There are, however, examples in practically every rural community in Michigan which should convince every reader that speculative investments of any kind are not good business for farmers. It is far better for farmers to invest savings first in their own business, if it requires additional capital, and second in absolutely safe securities that yield an interest return commensurate with their safety. Other things being equal there can be no better field of investment for farmers' savings than Federal Farm Loan Bonds which afford an interest yield commensurate with their safety, and the money from the receipt of which is loaned to other farmers to build up their business on the best of first mortgage security.

The Federal Land Banks are in reality cooperative borrowing and investment institutions for the farmers of this country. Of the \$42,000,000 of stock in these institutions outstanding, all but \$24,000,000 is owned by farmer members. Nearly 300,000 farmers are borrowers from the Federal Land Banks at the present time. The funds of these banks afford an absolute safe avenue of investment for the six million farmers, which will conserve their capital and aid in the extension of the benefits of this source of farm loans to hundreds of thousands of other farmers in all parts of the country.

There are many other safe investments open to farmers who will consult their bankers regarding them. None of these offer a high rate of interest but any farmer who is offered an investment on which the salesman holds out the prospect of large earning power, is safe in the immediate conclusion that the investment is of a speculative nature with the chances against even a moderate return, to say nothing of the high return held out as an inducement. Safety of capital and high returns on investments do not go together, and safety of capital is the first principle in sound investment. It is the principle followed by bankers and financiers everywhere, and is the only safe principle to follow in the investment of either small savings or large accumulations whether the investor be a farmer, a banker, or a capitalist.

For The Whole Family

WE hope there is not a reader of this journal who has not informed himself or herself of the big Farmers' Week program to be given at the Agricultural College, February 4-8. A portion of this program is run on other pages of this issue. A study of the portions published will indicate that those who planned it had in mind the entire family.

This is a great annual event. It is at once an outstanding fair with educational demonstrations of the most practical and progressive type, and again a school which provides class rooms for every variety of agriculture which is being practiced in the state, and this under the most inspiring and practical teachers.

The program is crowded into a five-day period. This may be fortunate. There is so much going on, so many things to see and hear that if the sessions were longer the scholars might develop mental indigestion. But any average person can go it for five days; and by the aid of his note book, which we advise him to have constantly in his pocket, he will carry home brain food enough to keep his mental processes functioning for months to come.

The important point is that no farmer should hesitate to take the whole family, or any member thereof. The well-rounded sessions set for the women folks, the boys' and girls' contests, the music and other entertainment, the wide variety of associational meetings touching upon soils, crops, fruit, live

stock, marketing, etc., together with the general gatherings in the afternoon and evening in the college gymnasium, all these make up a wonderfully well-balanced program of practical agricultural education for all thoughtful farm folks.

Sugar Beets In Michigan

THIS is the time of year when sugar beet growers are making contracts with the factories for the coming season's crop. In other words, arrangements for marketing are being made before the seed goes into the ground. Naturally the farmer should work for the most favorable contract he can get with those who take the crop. To this end an organization of growers under the guidance of sane leadership should prove most helpful.

An important phase of the situation is that under average conditions the farmers of Michigan cannot afford to allow sugar beet growing to go into the discard. It is a valuable asset to our agriculture and a revenue producer of the first order for those located where they can grow a few acres of the crop.

There are several reasons for this. As a nation, we import from outside our insular possessions about one-quarter of our supplies. A large portion of this shortage could be grown to advantage in our own country and state. And in addition to this general economic situation the most dependable figures available show that the crop is the best paying annual cash crop which the farmers of Michigan have.

Then, too, the soil, climatic conditions and rainfall of the Saginaw Valley and other portions of the state provide the most ideal conditions to be found in the country for growing beets. Our system of farming is also such that, through crop rotations, it is possible to keep down diseases and pests and maintain soil conditions at less expense than in most other important beet producing areas in America. We are also in the center of a great consuming area protected on either side by railway tariffs.

These reasons and others make it desirable that the beet industry of the state be maintained and, if possible, doubled in magnitude in the dozen or so counties suited to the culture of the crop. Ohio farmers are now working to increase the number of factories in that state to eighteen, the number now operating in Michigan.

Should not all agencies of the state interested in the industry and in agriculture generally, join in a sane program looking toward the expansion in the production of sugar beets?

Prunes In Germany

WE read that a single prune in Germany costs a million marks, more or less. This price is due to the scarcity of prunes and the abundance of marks. Incidentally, the German grocer has to say to the customer, "Ya ver haben kina trockenen pflaumen," which in strictly modern English is, "Yes, we have no prunes today," that is, of course, if the customer has the million marks, more or less, to buy prunes with.

One may naturally be led to ask, "Well, what has that got to do with buying automobiles in America?" The facts of the matter are, that many California people are not trading their 1920 Packards for 1924 Fords because Germany is not buying prunes and other dried fruit.

Germany has been a prolific consumer of American dried fruit, taking at least one-half of the total apricot crop but since she has gotten in a bad way, the common boarding-house prune has assumed there a social standing snails' eyebrows, or such delicacies, have here. It is only when a man is trying to win his way to the lady's

heart that he is willing to spend a million marks for a prune for her stomach.

This status of affairs has the California grower in "dutch." He has a big carryover from last year's crop and the promise of increased production for next year. They are facing a situation comparable to that of the wheat growers. They have the disadvantage of not being able to cut down their acreage, but they have a big point in their favor in that they know how to cooperate, which the wheat growers do not. They do not look upon the situation as a life and death matter, but as a necessity for more cooperation. They are planning now a cooperative organization of cooperative organizations. In other words, the present organizations are going to cooperate to solve the situation.

We, in Michigan, will be glad, or rather fortunate, when we really know how to cooperate, let alone super-cooperation. But, meanwhile, we may rest assured that we will be eating more prunes in the near future because of the cooperation which cooperates in California.

Skated

WELL, in what you call accordance with the announcement last week, me and Sophie went a skatin'. In this exhibishun of skill Sophie spechulized in straight skatin, while I did the fancy stuff.

After supper a coupla nights ago, I says, "Sophie, I got the old skates sharpened, let's try them out." So we went. We didn't go by the bon-fire, 'cause I says to Sophie that we want to try the dumb things out before we make our public appearances. So we goes to the end of the pond and puts



our skates on. I find my skates was a coupla inches too short, so as long as I stood on my heels I was alright, but I couldn't do no toe dancin'.

When I got on the ice I found the two feet tryin' to part company, one was goin' west and the other was goin' east, and I was stayin' right where I was, tryin' to bring the opposin' facshuns together. Well, I was succeedin' but the two feet come together about eighteen inches in front o' me. I couldn't catch up fast enough, so the ice and that part o' me what is farthestest behind, come together.

Sophie was standin' her own purty well, so she helps me up, and tries to help me get started. Well, I didn't do no better than when I was learnin' to walk, and Sophie gets tired of foolin' with me, and goes skatin' off like a dove, while I was standin' there like a goose.

You know it's bad when musick keeps your feet from behavin', but its awful when skates do the same thing. Sometimes, the way my feet was goin', I felt I was goin' to be like a butchered hog, kinda split up the middle. I know now that when a fellow is down he is purty near out, 'cause it's so hard for him to get up again.

But I kin say my skatin' was lots differunt from the other folks. It was mostly ups and downs instead of forwards and backwards, but that made my skatin' what you call distinctive.

One of them high-school girls comes and says, "How are you comin', Hy? Let me help you a little."—I give what the perffessor calls silent consent and in a little while another comes, so I had one holdin' my hands on each side of me. Well, you know, then I kinda didn't care if I never learnt.

I didn't know what Sophie was doin' meanwhilst. But when it comes to skatin', Sophie is too fast for me. She kin play tag and such like while I'm takin' lessons. Anyhow, I'm goin' skatin' again, 'cause I think it's lots o' fun.

HY SYCKLE.

Pruning Black Raspberries

Some New and Interesting Information on the Subject

By Stanley Johnson

Supt. South Haven Experiment Station

REALIZING that there was a splendid opportunity to do some interesting and perhaps valuable work on the fruiting habit and pruning of raspberries, the horticultural department decided to start a project which was delegated to the South Haven Experiment Station.

Some striking results were obtained. In fact, it was thought that they were of sufficient importance to make a preliminary report at the end of one season's work. It is to be distinctly understood, however, that what I am going to say is by no means final.

It would probably be wise to briefly explain just what was done in the way of actually carrying out this project. First, I will discuss black raspberries. Two series of plants were selected; one, with plants having three canes to the plant—the other, with four canes. The pruning in each series was otherwise identical. For instance, the first block in each series was pruned with the laterals approximately four buds in length. The second was left with the laterals medium in length, while in the third, the laterals were left full length, the winter-injured tips being cut off. Realizing that there might be some advantage in thinning out laterals, the three blocks just mentioned were duplicated only instead of leaving five laterals to the cane, three were left—each block consisted of ten average plants.

Ten average canes were selected in each block for special record taking. A complete bud record was the first record taken. That is, a record was made of what every bud did, whether it was fruitful, vegetative, dormant, winter-injured or mechanically injured. This record proved to be of real value as it showed that practically every bud in a raspberry cane is fruitful if given a chance to make a sufficient

growth. For example, the buds on the cane where the laterals were pruned short, responded with a vigorous growth and were fruitful, while on the laterals left full length, the buds on the cane made only a very short growth, which soon dried up. This discovery was of great importance, as it simply narrowed the proposition of pruning raspberries down to the number of buds a raspberry cane should carry to best advantage without being overloaded.

The next record that was taken on these special canes, was during the fruiting season. At that time, strings were tied on the cane and on the laterals at every fifth bud. Then, during the picking season a record was made of the total number and total weight of berries for each picking. It can readily be seen that this procedure gave us a very complete record of what every portion of the cane and laterals actually did in the way of production under every type of pruning. Besides these records, a yield record of the rest of the canes in each block was made, thereby giving us a very complete record of each block.

Block B-A, in the four-cane series, with all the laterals cut back to four buds, gave us the best results when size of fruit and total yield are both considered. This block was second in total yield, being only slightly exceeded by block A-F in the three-cane series, with the laterals full length and thinned out. Block B-A had fruit of much better size than any of the blocks where the laterals were left full or medium in length, and was only exceeded in size of fruit by the blocks pruned in a similar manner in the

three-cane series, or where the short laterals were thinned out.

Probably it would be well to compare block B-A with block A-F and also with block B-B, which was in the four-cane series with the laterals medium in length. This last block we

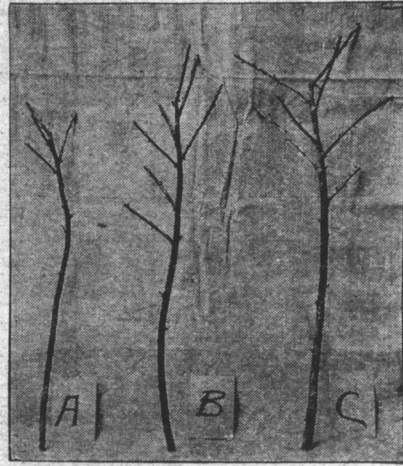


Fig. 1.—Black Raspberry Canes Pruned in Accordance with the Results Obtained in the Raspberry Pruning Project.

Cane A is fourteen thirty-seconds of an inch in diameter six inches above the surface of the ground, and the laterals are cut back to four buds in length. Cane B is seventeen thirty-seconds of an inch in diameter, and the laterals are left six buds in length. Cane C is twenty thirty-seconds of an inch in diameter, and the laterals are left eight buds in length. See discussion for pruning black raspberries.

considered approximately commercial pruning, as it is practiced in the South Haven District. For the purpose of

making this comparison, Table No. 1 has been prepared.

Block.	Table No. 1.	
	Cases Per Acre.	Berries Per Acre.
B-A	210.3	1,811,27
A-F	220.9	2,372,241
B-B	200.9	2,162,145

In Table No. 1, it will be noticed that block A-F outyielded block B-A on an acreage basis by 10.6 cases (sixteen quart cases). However, it will also be noticed that this increase in yield was obtained at the expense of picking 552,514 additional berries. The berries were sold to the cannery at \$1.75 per case—this would give A-F an increase in money return over B-A of \$18.55 per acre. Now, if 552,514 berries is divided by 1855 cents, it shows that it was necessary to pick 298 extra berries to earn one cent. In this kind of picking 298 berries would mean about three-fourths of a quart. Without a doubt, it is very unprofitable picking to pick three-fourths of a quart for one cent.

A comparison of block B-A with block B-B, the commercially pruned block, shows both yield and size of fruit to be in favor of B-A, which produced 9.4 cases more at a saving of 342,418 less berries to pick.

It is apparent therefore, that the size of the fruit in block B-A was much better than in the other two blocks—in fact, the berries produced in block B-A were of good size through all the pickings. There were no small crumbly berries. The opposite was true in the case of the other two blocks, as many of the berries were small and crumbled when they were picked. If the sales had been made on the fresh fruit market, the money returns for block B-A would undoubtedly have been greater than for the other two blocks. While it was impossible to keep ac-

(Continued on page 142).

Christmas Trees as a Farm Crop

Here Is Another Diversion Which Many Michigan Farmers Could Advantageously Include In Their Farming Program

By Paul A. Herbert

THIS year saw the usual tremendous output of Christmas trees. The custom in the United States for using evergreens for Christmas consumes annually over 5,000,000 small trees. It is estimated that Michigan alone uses annually over 500,000 such trees.

The retail price this year ranged from ten cents to fifteen cents per year of growth, this being generally somewhat higher than in the past. This was mainly due to the growing scarcity of the trees, but also to some extent to the embargo on evergreens from the northeast and the greater vigilance of the state and private owner in preventing theft. Naturally, as the trees in the more accessible localities are cut, increased freight rates further raise the retail price. This year a carload of Christmas trees was shipped all the way from Oregon to Pennsylvania, a distance of over two thousand miles. The freight charge on that one carload was \$700.

In the past few years considerable agitation has been carried on to abolish the use of Christmas trees. Young trees, some argue, should be allowed to grow to timber size and thus augment our waning timber supply. Despite this agitation the demand for Christmas trees will not diminish. This delightful custom, which brings joy to the hearts of the old and the young, is too well established to be abolished by such a fallacious argument.

Professional foresters maintain that

Christmas greens are a legitimate use for trees. When the trees are more valuable for large timber than for Christmas trees, no business man will sacrifice them for Christmas decorations. Trees will always be used for that purpose which brings the most profit to the producer. Prices of Christmas trees in years to come will increase as the source and the supply of tree growth becomes more restricted. Furthermore, there is no chance of an over-production.

Comparatively few kinds of trees are used for Christmas decorations. The balsam fir is, perhaps, most preferred because of its blunt needles and fragrant odor. Our western firs have much coarser foliage and are not so fragrant. At present they are used only locally, although higher prices will soon bring many of them to the general market.

The commonest Christmas trees are the spruces. The needles of these trees are stiff and prickly. They are

not nearly as fragrant as the firs. However, their abundance and adaptability to many soils makes them generally the cheapest tree in many regions.

Douglas fir, a western tree, having characteristics quite similar to the spruces and the firs, will with increased prices, be found on the eastern market for many years to come. Cedars are quite common on the southern market. Other kinds of evergreens, such as hemlock and pines, are as a rule only used locally.

The ideal Christmas tree is conical in outline with wide-spreading branches with approximately ten inches between the whorls. Trees from three feet to eight feet tall, and from five to twelve years old, are in greatest demand. The tendency in recent years is toward the smaller tree, one that can be placed upon a table. Of late, potted, living trees of from eight inches to three feet in height have come into vogue. These can not only be used for Christmas trees, but also for decorative purposes during the rest of the year. With proper care such potted trees can be used for a number of years for this purpose, and then when too large, can be planted out in the open.

Michigan is well located for Christmas tree production. The close proximity of Chicago, Detroit, and the large cities of northern Ohio and Indiana insure a constant market. Any surplus that might possibly occur can readily be shipped east. Cleared, or partially



The Christmas Tree Farm of A. E. Dinet, of Whitehall, Michigan, Showing Norway Spruce Trees Two Years After Planting in Sandy Soil.

cleared land of low agricultural value will show excellent returns when growing this crop. It requires very little attention, and then not at any particular time. If for any reason it is not found expedient to harvest these trees when planned, they will not deteriorate, but will increase in value year by year. Michigan soils and climate are well suited for the growing of our commonest Christmas tree, the spruce. Norway spruce Christmas trees have already been grown at a profit in Michigan as a farm crop. Michigan farmers who have more land than they can profitably work or who have land of low agricultural value, will find such a tree crop a profitable investment.

The best species for Christmas tree plantations in Michigan is the Norway spruce. This tree is a native of Europe, but is thoroughly adapted for planting in the eastern part of the United States. It is being grown successfully in Michigan today. Norway spruce is similar to the native white spruce (also called cat spruce) except that the foliage is dark green instead of being covered with a whitish bloom. The pungent and at times disagreeable odor of the white spruce is lacking.

Norway spruce grows rapidly on a large variety of soils. It thrives on sand dunes after temporary cover has fixed the sand. A successful experimental Christmas tree plantation carried out by the forestry section of the experiment station at East Lansing was located on a stiff clay soil. Soil requirements, therefore, are not very important for the growth of this tree. However, it requires a fairly well-drained soil. It will not grow in a swamp, nor will it make satisfactory growth on exceedingly dry land such as one commonly finds on the jack pine plains.

The growth varies, naturally, with the site and the care which the trees are given. Exceedingly rapid growth is not desirable as it will make the tree too open and lessen their sale value. One foot a year is the maximum height growth desirable in Christmas trees. Norway spruce will, under ordinary conditions and on soils usually available for tree growth, make this maximum growth after the first two years.

Most farmers who intend to put in a small acreage will find it more economical to buy the small plants instead of attempting to grow the trees from seed. Seedlings require considerable attention during the first year or two and losses are often heavy. Seedlings and transplants can be procured from many commercial nurseries throughout the country, or from the forestry department of the Michigan Agricultural College at East Lansing.

The tendency is to buy the biggest stock available in an effort to shorten the number of years required to produce the desired size trees. This is often a mistake, as the larger the stock the more care and time required in planting, the greater the cost of the stock, and the bigger the losses in the first year. Smaller stock can better survive a drought just after planting than the larger stock.

Four-year-old transplants are usually considered the best size and age for Christmas tree plantations. Such stock costs from \$3.00 to \$25 per hundred F. O. B., depending on the size of the plants and the concern from which they are purchased. The selling prices of the various nurseries differ considerably on the same class of stock. Nurseries operated on a cost basis, such as are maintained by many states, usually quote the lowest prices.

If the farmer has the time and the inclination he can grow his own stock. Norway spruce seed can be procured from all forest seed houses at a price ranging from \$1.60 to \$2.50 per pound. A pound of such seed should, under optimum conditions, produce approxi-

mately 23,000 seedlings. The seed should be sown broadcast in beds in the late fall or in the early spring. About one-sixth of an ounce of seed per square foot of seed-bed will usually produce the desired stand.

Special care must be taken to prevent losses from damping off diseases, birds and mice. Damping off can usually be prevented by using sterile sand for the upper two inches of the seed-bed and by not wetting down the bed too much. Birds and mice can be kept out by framing the bed with wire netting. As the seedlings require partial shading during the first growing season, a slat frame should be placed about six inches above the surface of the ground. This frame may consist of inch slats spaced an inch apart. Other forms of protection are at times used, such as cheesecloth and mulches, but none are as effective as the wire screen frame with a slate sun shade. Hand-weeding will be necessary at

the top growth.

Unless the farmer intends to go into production on an annual basis it will be found advisable to purchase the stock ready for field planting or for the transplant rows. Arrangements for stock should be made early the winter previous to planting so as to assure the necessary stock and prompt shipment as desired. As soon as the stock is received it should be examined to see if the roots are dried out. If they are dry the trees are dead and no amount of watering will make them grow. It will simply be a waste of money to plant such stock. The roots should at all times be kept moist and should under no conditions be exposed to the sun and wind. The trees should be taken directly to the field in which they are to be planted, the bundles opened, the trees spread out slightly, and the roots then well covered with moist soil. The tops should be clear of the ground. Thus heeled in they

We've Saved It For a Rainy Day--So Let's Use It.



first, but a good stand of seedlings will soon prevent the growth of additional weeds later on.

During the first winter the bed should be covered with burlap or mulched with straw or leaves. The seedlings will be from three to six inches high at the end of the second year, and must then be given more growing space. If the trees are to be planted on prepared ground on a favorable site they may be set out immediately. But if the field upon which they are to be planted is rather dry or covered with a sod or a heavy weed growth, it will be best to place the seedlings in transplant rows about two to six inches apart for another year or two.

At three years of age (two years in the seed-bed and one year in the transplant row) the trees should be six to eighteen inches high, at which size they are best able to compete with the weeds and other unfavorable conditions found on many planting sites. Root pruning in the third year is resorted to at times when the transplants are growing too fast or are to be planted upon very adverse sites. Root pruning increases the production of fibrous lateral roots and reduces

will keep for weeks if the planting has to be delayed.

It will save the farmer much annoyance and petty theft if he will choose finds many motorists out in the country for a planting site a field back from the public highway. Christmas time try foraging for greens, some of whom still regard tree growth as public property.

A comparatively well-drained area should be chosen for best returns. Plowing, while not really essential, will materially shorten the number of years necessary to bring the trees to marketable size. If time is available plowing will more than pay for itself. The ground should be prepared in the fall. The use of commercial fertilizers is not recommended. Barnyard manure can be used to good advantage, if available.

The trees should be planted in the early spring as soon as the frost is out of the ground. By planting them in staggered rows three feet apart each way, the maximum amount of stock of approximately 5,580 trees can be set out on each acre. The best tool to use in the planting operation is the grub hoe. With it a hole large enough to hold the root system without crowd-

ing can easily be made.

A second man can follow with a pail of trees, pressing the soil firmly around each tree as he plants it. The pail should be partially filled with wet moss or thin mud, thus preventing any possible chance of the roots drying out during the planting. The root collar should not be set over a half-inch deeper than it was originally. Greater depth causes the roots to die back and thus stunts the trees, or even causes them to die. Two good men working together as here described can plant approximately 2,000 trees in a nine-hour day.

While no cultivation is absolutely necessary, one or two times over the area with a shallow-set cultivator during the first two years, will materially aid in the maturing of the crop. The growth during the first year while the plants are getting established will be very small, but by the third year the growth on average sites will be about one foot per year. If four-year-old transplant stock is used, the plantation will usually begin to show crowding by the end of the fourth year. The larger trees then, where necessary, should be removed at Christmas time and sold. An annual thinning will be required thereafter until the final harvest. The final harvest will ordinarily come about the sixth or the eighth year after planting. This will vary, naturally, with the kind of soil upon which the trees are planted, the care given them, and the size stock desired.

The profits obtainable depend on the value of the land, the cost of the stock and labor, the rate of growth, the distance from market, and the selling price of the trees. These items vary so much, that a general statement can not be made. The facts and figures here given will, however, enable any farmer, knowing local conditions, to determine approximately what he can expect from such an investment as is here outlined.

AGRICULTURAL PROGRAM IN HOUGHTON COUNTY.

HOW the county agricultural agent has assisted in the agricultural progress of Houghton county—one of the largest agricultural counties in the state—is revealed in a recent report of Mr. L. M. Geismar, agricultural agent, to the board of supervisors of that county.

Time was, as the present writer learned through the study of the records of importing houses at Eagle Harbor, when this section was an importing region, even hay being brought up from Detroit by boat. Now, as Mr. Geismar is able to show, Houghton county is an exporter of potatoes, and the yields of oats, wheat, rye and corn has been greatly increased, while varieties have been improved through the use of better seed. The desirability of raising canning-peas has likewise been demonstrated.

The agent has promoted the introduction of pure-bred live stock, the purchase of cheap government explosives, and the organization of farm-loan associations. Mr. Geismar claims to have organized the first county potato show held in the United States, and pure-bred seed potatoes have been introduced to the farmers. Instead of an annual shipment of sixty cars of potatoes into Houghton county, there is an export of eighty cars.

The use of home-made dairy products has been increased, and the importation of stock feeds and forage has been restricted through the erection of silos and otherwise. Four local flour and grist mills have been erected as a result of the agent's efforts, it is stated. There is now one dairy cow for every eight inhabitants of the county, where there formerly was one cow for thirty people. All in all, it is a very creditable showing and one that means much to the welfare and prosperity of the urban and mining centers of Houghton county.

Fordson

A new year dawns on the farm with the coming of spring work.

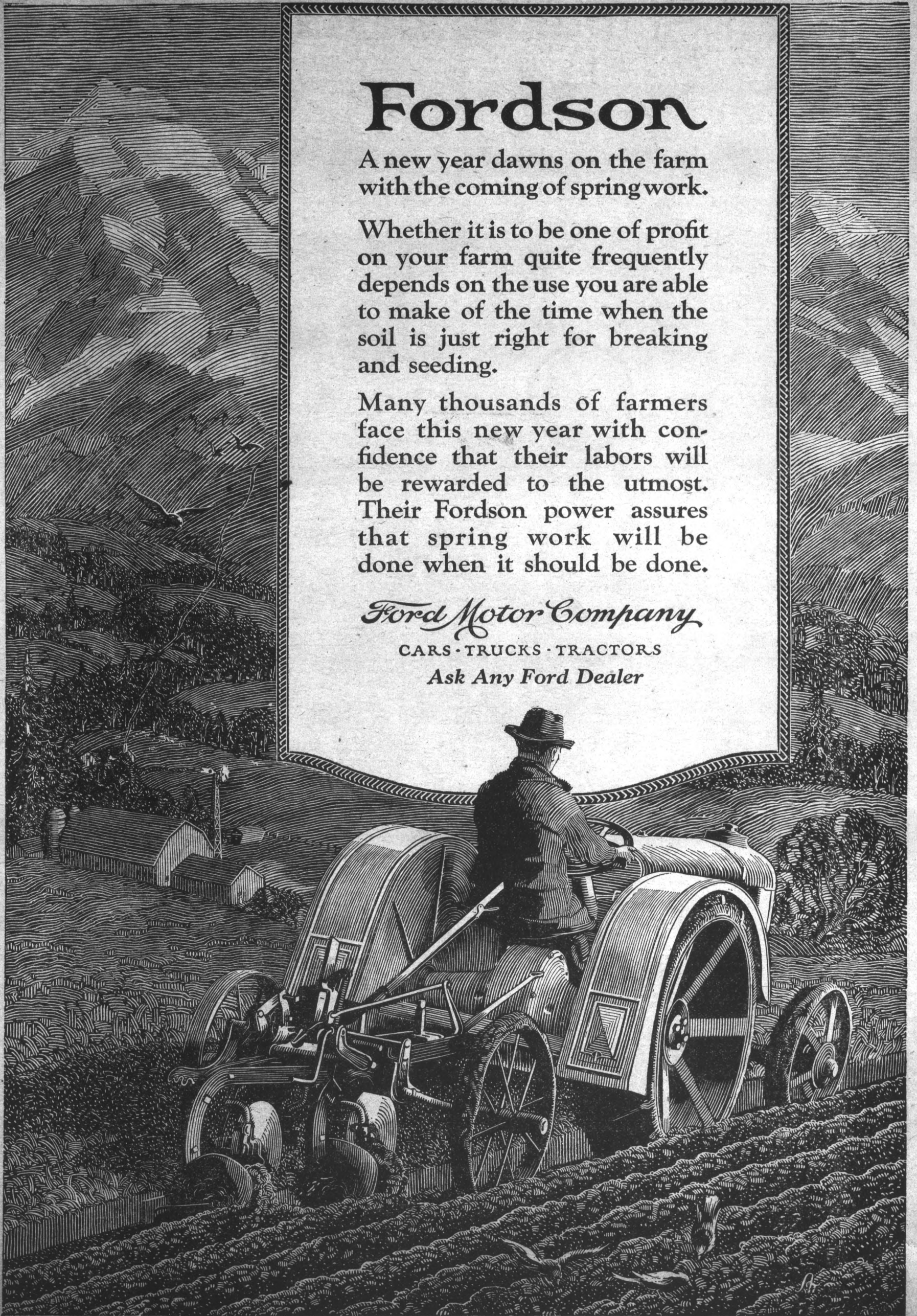
Whether it is to be one of profit on your farm quite frequently depends on the use you are able to make of the time when the soil is just right for breaking and seeding.

Many thousands of farmers face this new year with confidence that their labors will be rewarded to the utmost. Their Fordson power assures that spring work will be done when it should be done.

Ford Motor Company

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Ask Any Ford Dealer



What Standardization Is Doing

Some Worthwhile Results Already Noted In This State

By W. P. Hartman

Deputy Commissioner of Agriculture

STANDARDIZATION of farm products, especially fruits and vegetables, assist greatly in putting the marketing of these products on a business basis. The benefits of standardization may be classified as follows:

1. Encourages future contracts.
2. Promotes sales f. o. b. and in transit.
3. Facilitates government inspection at terminals.
4. Affords comparisons of commodities and prices.
5. Graded products hold up in storage.
6. Eliminates freight and other charges on culls and inferior products that should not move to consuming centers.
7. Discourages and reduces speculation.
8. Sound advertising can be based only on standard grades.
9. Fosters confidence and good will.
10. Creates preferential markets and premium prices.

But some who are inexperienced in market requirements and commercial practices will say: "These points, or most of them, are hypothetical. Just what do they mean to me, as the producer, in dollars and cents, in increasing my net earnings? We have been grading our apples—more or less—for the past six years. Just what are the actual results?"

The following quotations are from letters received during the past two weeks from men in the markets of the cities referred to, who, by reason of their positions, know more about the actual conditions in that particular market than any other one man:

Chicago.—"The consensus of opinion is that there has been a noticeable improvement in the grading of Michigan fruits during the past two years. The trade here feels that Michigan apples are good this year."

Milwaukee.—"There has been a decided improvement in the general run of Michigan apples, peaches and grapes this year, both in grade and pack. This improvement has been not-

ed by the trade and favorably commented upon."

Cleveland.—"Regarding the quality and pack of Michigan fruits, and also the quality of potatoes received in Cleveland, from our observation of the cars inspected and the comments from the trade, the stock on the whole, is at this time generally satisfactory."

Detroit.—"The trade here seems to be of the opinion that considerable improvement has been shown this year in the apple grades, with the result that very few rejections have been made. With reference to peaches and grapes, from personal observation, as well as impression gained by comment made by the trade, both the grading and packing of these commodities this year have, in general, been very satisfactory."

Detroit.—"On the whole, the trade seems to feel that the grading has been a distinct help, although the results are not so measurable in many cases now as they will be later. Some expressed the opinion that buyers are accepting the goods with greater confidence and less inspection."

"Of course, it is evident to observers at this end of the line, and it ought to be made plain to the grower, that the value of careful grading does not reach its maximum in a brief space of time. Confidence in the mind of the buyer is a thing that must be gained by persistent effort. With most crops, Michigan has got to do considerable work to bring them up to the standard of the products which come in from other states."

"I agree with you fully that work should be done to encourage the housewife to buy by grade so far as possible. Our newspaper publicity, in the future, will be framed in such a way as to show the housewife the benefits to her of grading, and that much of the value is lost unless she help the thing along by demanding graded products from her retailer."

On every hand, the moment Michigan fruits are mentioned, the instant come-back is to the effect that none question the superior quality of our fruits, but why is it the western products outsell us in all of the markets? Even our home markets feature west-

ern apples. The westerners were forced to cooperative organizations, and they headed their organizations, either in the very beginning or eventually, with high-pressure, highly trained men for the jobs assigned them. Advertising was imperative to move their normal crops, and particularly to profitably sell during seasons of abnormal production, or to meet peculiar market conditions. Today, the western growers and canners are spending two million dollars in newspaper, magazine, bill-board, street car, placard, and other advertising, telling the nation consistently and persistently about their oranges, lemons, walnuts, prunes, raisins, peaches, apples, eggs, canned fruits and vegetables, etc. During 1922, the raising growers alone spent two million dollars in advertising.

Standardization enables the shipper to safely guarantee, and the distributor, dealer and consumer to have every assurance that even though he must pay a premium price, he has actually saved money, because every fruit, every box and every carload will be of the standard grade sold, bought and paid for. The housewife in the city will soon be educated to buy her perishable products by grades.

If we standardize and advertise and merchandise only our best products, what is to become of the under-grade, cull or inferior portions of our crops? Every one of you progressive growers assembled here today will agree, I am sure, that the day has now arrived when, following our own individual experiences and observations, and the findings and teachings of the college and experiment station, it behooves us to produce less inferior stuff. In other words, conforming to the manifest requirements in the matter of varieties to be propagated, tillage, fertilization, pruning, spraying, thinning and har-

vesting will, under normal conditions, give us a negligible volume of unmerchantable products. That is the first and most important answer to the question. The second answer is: We need new and additional facilities for storing and utilizing.

Folks in the cities are rapidly condensing into hat box living quarters called apartments or flats; their time is divided between factory, shop, office or store, and the theater, golf links, club meetings, etc. They have little space in the home for storing and little time in the kitchen for preparing raw products; all of which, coupled with the reasonably high-priced, high-quality canned products, is rapidly increasing the per capita consumption of, and developing still greater demand for, canned and dried fruits and vegetables. We haven't a single operating dehydrating plant in the state, but we do have 123 licensed commercial canning factories, putting up thirty-three kinds of fruits and vegetables. The quality of the Michigan pack of 1923 is conceded to stand out unexcelled in comparison with the canners of any other state.

We are the third state in apple production, but rank only sixth in vinegar. We have over 400 custom and commercial cider mills; about twenty of any real commercial importance. In the past, a major part of the wholesale sales of vinegar has been shipped in from other states.

Hundreds of thousands of dollars' worth of farm products were sold at road-side stands during the past season. A new and profitable system of selling and offering unlimited opportunities by way of improving display, better grading, and using containers adapted for the purchaser to carry away, or to mail or express.

Horticulturally, Michigan has occupied a leading position for more than half a century, yet only the cynic or confirmed pessimist will deny that we are just getting our stride.

LATE AGRICULTURAL NEWS

MUSCLE SHOALS ISSUE PROGRESSING.

THE house military affairs committee has received word from Henry Ford that the McKenzie bill, which would authorize acceptance of his bid, was satisfactory if the Madden amendment providing for the replacement of the steam plant was adopted.

Mr. Ford will be invited to appear before the committee to explain some points in his offer, after which it is promised that a decision will be made in the matter. The committee is practically agreed that no offer will be accepted which does not include the production of air nitrates for fertilizer purposes.

BILL PROVIDES FOR STUDYING FARM AGRICULTURAL PRODUCTION.

A BILL providing for expansion of the service now rendered by the Federal Department of Agriculture in gathering and disseminating information regarding agricultural production, competition and demand in foreign countries for the purpose of promoting the sale of farm products abroad, has been introduced in the house by Representative Ketcham, of Michigan, and in the senate by Senator Capper. It is believed that this information would enable American farmers to adjust their operations and practices better to meet world conditions.

The state department would be required to accredit, in the same manner as a secretary of an embassy, as agricultural attaches with diplomatic standing the agricultural commissioners at present representing the department of agriculture in foreign countries. In addition to gathering information, these attaches would be required to cooperate with producers, farm organizations and others, both individually and collectively, in promoting sales and purchases of agricultural products by establishing and demonstrating universal standards for agricultural products.

BUGS ARE EXPENSIVE.

ESTIMATES made by the insecticide and fungicide board show that farmers of the nation are annually spending \$40,000,000 for insecticides and fungicides to control insect pests and fungus diseases. Since the insecticide act was passed in 1910 the board has prosecuted 900 cases and secured a verdict in all but a few instances.

TARIFF COMMISSION REVERSED.

THE first report of the President made by the federal tariff commission under the flexible provisions of the tariff act, has been reversed by Attorney-General Daugherty. It related to the timber schedules.

A resolution introduced in the senate declares a lack of public confi-

dence in any recommendation of the United States Tariff Commission respecting industries in which participating members of the commission are financially interested. It has been ascertained that Commissioner H. H. Glassie, his wife and relatives own all the stock in a sugar mill in Louisiana.

DOES NOT FAVOR MELLON PLAN.

THE American Farm Bureau Federation is not in favor of the Mellon plan, H. C. McKenzie, tax representative of the federation, told the committee on Ways and Means, on the grounds that "it makes all the reductions, except two or three minor ones, in the income taxes and leaves the 90,000,000 whose income is below the income tax level without substantial benefit. It still further shifts the percentage of taxation from income to consumption taxes, or from ability to pay, to necessity to consume."

Mr. McKenzie said the tax bureau needed to be radically overhauled. The 1922 returns are untouched, only an insignificant beginning has been made on the 1921 returns, while portions of the returns for 1917 and 1918 are still awaiting final adjustment. "The department tells us that they expect to be up to the current year within eighteen months. They are too optimistic; they told us the same thing in 1921 and every year since, and yet the returns for 1917 and 1918 are still with us. Secretary Mellon's plan for a board

of tax appeals, independent of the tax unit, may help but does not reach the main trouble, which is within the department."

Speaking of the tax-free securities question, Mr. McKenzie said that the final remedy for tax dodging by the tax-exempt securities route "seems to be a constitutional amendment but there is a partial remedy that is simple, fair and easily applied; it is that all deductions and exemptions be first set off against tax-free income. The American Farm Bureau Federation is committed to the general principle of abolishing tax-free securities and any deviation would have to be abundantly justified. If congress is in favor of taxation according to ability to pay, there is no reasonable excuse for not adopting this partial remedy." He also declared that money derived from the sale of stock dividends should be taxed as if the dividends had been declared in cash. These means of escape have made the payment of the higher surtaxes largely optional.

PROMISES HELP FOR NORTH-WESTERN FARMERS.

THE Norbeck-Burtess bill providing an appropriation of \$50,000,000 to be loaned to northwestern farmers with which to purchase dairy cows and other stock, has received the President's indorsement, and it is said he is very anxious that it become a law.

Grows Prime Beef

W. E. Ramsey of Harbor Beach Breeds and Feeds Hereford Baby Beeves and Tells Both Sides of the Financial Story

By P. P. Pope

WHAT does it cost to raise a prime beef calf? During these days of high-priced labor and low-priced farm products, this is a question that is very often coming up. The raising of beef cattle suitable for finishing into prime beef at an early age is rapidly gaining favor with many cattle men in Michigan.

The old stock argument, that it did not pay to keep a cow a year just to raise a calf, is being exploded in the realm of baby beef production. The popularity of baby beef feeding has increased greatly in the past ten years, with the inevitable result that, as the demand for choice feeder calves has grown, the price has increased. The question now is, has this price not reached the point where we in Michigan can well afford to compete with the west in producing these calves for our own feed lots. Many men are thinking that, considering the high freight rates, the heavy shrinkage and

and made lively by a pair of happy-hearted youngsters.

As I remember, there are some three hundred acres in Allen Dale Farm. More than 100 of these acres lie on the high land back from the bluff that originally formed the shore line of Lake Huron. This is most excellent farming land. One hundred and eighty acres are rocky flats that occupy a strip varying in width along the lake front. This land is very good for grazing, but too thickly coated with great rocks of luxuriant proportions, to be of much use for anything else. It is split lengthwise by one of Michigan's great trunk line highways that passes over a great stone arch, or culvert, through which the cattle readily pass from one pasture to the other.

These good grazing acres combine very nicely with the rich uplands that produce alfalfa, barley, oats and corn, to make conditions ideal for live stock farming. The feeding plant is unpre-



The Cow Herd with the Calf Creep in the Background, the Rock-bound Pasture and Old Lake Huron as they Appear when Viewed from the Allen Dale Farm.

the risk and loss from the long shipment, the west has nothing on us.

It isn't often, however, that we get a real intelligent answer to this question. Our farmers, stock men, and dairymen are too prone to look upon their gross receipts as profits, and then wonder where all the money goes to. I think I have heard a hundred dairymen tell about their milk checks. But, I say, these things mean nothing at all to me until I can compare them with the costs. If I make a million dollars and my expenses are a million and one dollars, my business, however attractive it may look, doesn't amount to much.

W. E. Ramsey, of Harbor Beach, is a good business man as well as a good farmer and a good feeder. His answer to the ever-recurring question was, "Let us go to the house and look up the records." There was more than one reason for my acquiescence, as it was cold outside and almost dinner time. So we went to the house, a comfortable, but unassuming structure commanding a wonderful view toward the rising sun and out over the blue waters of old Lake Huron. Far out on the great lake at most any hour of a clear day can be seen the long black streamers ceaselessly being poured from the smoke stacks of huge freighters that form a constant procession, both going and coming. We always experience a feeling of reverence, a sense of our own insignificance, and a certain lightening of responsibility, when we can stand by, before such mighty power and watch the business of the world so majestically going by. I wonder what subtle influence it may have upon the contentment of this model American home, which we found so ably presided over by Mrs. Ramsey,

tentious, just a good big barn with full roomy basement and a tall silo. The cows run to the pastures whenever weather conditions permit.

The Breeding Herd.

Mr. Ramsey's inclinations have led him to adopt the Hereford as a breed best suited to his beef-making operations. Because of their great grazing and early fattening characteristics, and their hardiness and regular breeding tendencies, he has chosen wisely, and has bought and bred and selected until his herd now numbers forty-four head of pure-bred females, all of producing age. Every cow on the farm, at the time of my visit, was either suckling, or had just weaned, a big lusty white-faced calf.

It is these calves that represent the annual production of the herd and provide the cash income. Some of the best of them are retained each year for the breeding herd, or sold for breeding purposes, but a large part of the crop finds its way into consumptive channels via the baby beef route.

I have always been an admirer of good beef cattle. I love to size up their good beef points and run my fingers through their mossy coats. My grandfather learned the "feel" of a good steer's mellow hide when my mother was a baby, and I think there is where I got my first lesson. So it was an inspiring sight to me, this uniform herd of curly, white-faced babies and their broad-backed mothers, as they grazed contentedly over those broad, rock-bound pastures.

The Balance Sheet.

There are things in the country, and in farming, and in the live stock business, that are, no doubt, of more importance than dollars and cents, never (Continued on page 168).



10 Shaves
FREE
See Coupon

My Life Work

The finest Shaving Cream you will ever know

By V. K. Cassady, Chief Chemist

GENTLEMEN:

I have devoted my life to soap chemistry. We have here developed some of the greatest soaps created. One of them—Palmolive—is the leading toilet soap of the world.

Our greatest ambition for years has been to perfect the supreme Shaving Cream. And we have done that, beyond question. Millions of men now concede it.

1,000 men consulted

Our first step was to ask 1,000 men what they most desired in a Shaving Cream. All of them agreed on four things.

But one requirement, and the greatest of all, is something no man mentioned. They were not scientists. They did not know the prime requirement in a shaving soap. That

is, strong bubbles which support the hairs for cutting.

We made 130 tests

We made up 130 formulas which we discarded. Each was better than the one before. But none, in our opinion, reached the utmost in a Shaving Cream.

Then we attained, by many times over, the best Shaving Cream in existence. Someone may make a better one, but not much better. Today Palmolive Shaving Cream is monarch in its field. It is winning men by the millions, as they try it.

* * *

Don't change from the cream you like now until you see what Palmolive Shaving Cream does. But make this test. You owe it to yourself and to us. Try ten shaves, and let the results show if we have excelled the rest.

Excels in 5 ways

It multiplies itself in lather 250 times, so one-half gram suffices for a shave.

It softens the beard in one minute. No hot towel, no finger rubbing.

It maintains its creamy fullness for ten minutes on the face. Super-strong bubbles support the hairs for cutting.

The palm and olive oil blend acts as a lotion, leaving fine after-effects.

Busy men also like the pliable tube Palmolive Shaving Cream comes in because it is not as cumbersome as the old fashioned mug—and the Palmolive Shaving Cream is always moist and ready for instant action.

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An invisible way to that well-groomed look.

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Stronger - Built of Alloy Steel

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THE UNIT PLOW FOR THE FORDSON

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Positively the lightest, strongest, simplest tractor plow on the market. Only 57 inches long — hitches up close to the tractor — plow and tractor become a single unit. Only half the usual weight — yet the plow

always stays in the ground and plows at a uniform depth. Here is, by far, the easiest tractor plow to operate. Turns short, gets into the corners, backs up accurately — perfect plowing in any soil, on any grade.

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AUTO LICENSE LIABILITY.

Is the owner of the 1924 license plates (auto) who loans them for transfer, equally liable with the man who borrows them to avoid buying his own until he gets ready to buy them? —A Reader.

Yes. —Rood.

GETTING STAND OF ALFALFA.

I am a resident of Lapeer county and have a piece of wheat which was sown on an alfalfa sod and turned down. Would like to re-seed to alfalfa. The soil is a clay loam and well-drained. Would you advise sowing Grimm alfalfa or is it more advisable to seed to June clover on wheat? —L. J. M.

Good stands of alfalfa are frequently secured when seeded with wheat on clay loam land, under conditions such as you describe. It is important that the seeding be made fairly early in the season. April seedings give better results than May seedings. From ten to twelve pounds per acre of northern-grown alfalfa seed, preferably Grimm, should be seeded.

Culture for the inoculation of alfalfa may be secured from the Department of Bacteriology of the Michigan Agricultural College, East Lansing. The price is twenty-five cents per bottle and one bottle contains sufficient material to inoculate a bushel of seed. Directions for application accompany the material.

Hardy seed of alfalfa is as dependable as June clover when produced with wheat. —J. F. Cox.

CERTAINTY OF GOOD TITLE.

In buying a city lot on contract, is the owner sure of a good title for the lot when he has the contract all paid? —H. P.

If the vendor has no title the purchaser gets none, and if the vendor sells to an innocent purchaser before the vendee records his contract or takes possession, the title of such purchaser would overreach the prior of the vendee. —Rood.

RATE OF TAXATION.

Please give me the amount of taxes or rate of taxation per \$100 on real estate. Also, how much live stock am I entitled to before I am taxed on same? I have no more this year than for several years back, but I have personal taxes to the amount of \$4.001. Amount is not much, but taxes are high enough on this worn-out land. I have two cows, two heifers, two small calves, one hog, two horses, wagon, necessary farm implements. Have I more than the law entitles me to without tax? —M. V. E.

We are not aware of any statute or constitutional provision limiting the total amount of taxes for all purposes. The only personal property of private persons exempt from taxation are: Library, school books, family pictures, sewing machines, wearing apparel, household furniture, fuel and provisions to the value of \$500; working tools of a mechanic to the value of \$100; mules, horses and cattle not over one year old, swine and sheep not over six months old, and personal property used by any householder in connection with his business to the value of not over \$200. —Rood.

RAISING DORSET SHEEP.

I am a boy seventeen years of age and wish to start sheep raising. I live in the Upper Peninsula and would like to know what breed of sheep I could raise here. I like the Dorset and think they will do well here. Can I buy the ewes from the Chicago Stock yards by the head or by the pound? At what price? To whom should I write to get the ewes. I would like fifty to 100 ewes and a pure-bred ram to breed them. —E. W.

No doubt you can make sheep raising quite profitable. The selection of the breed, while of considerable im-

portance, is by no means as important as the care and management given a number of breeds that you might select and make no mistake. It will be more difficult to get a flock of Dorset sheep than some of the more popular breeds in this country. It is hard to tell why they are not more numerous. Probably because many other breeds were introduced first and being found satisfactory have been widely distributed and held in favor. While the Dorsets are good sheep and popular in some parts of England, they are not claimed to be superior to other well-known breeds, except perhaps in one particular—the production of early lambs. They are not heavy shearers, they are not superior mutton producers, they are not more hardy, but it is claimed that many flocks, where rightly managed produce two crops of lambs a year.

You may have some trouble in getting a flock of these sheep from the stockyards, because they are not widely distributed here. Take the matter up with your local shipper or shipping association and probably they can assist you. You can write to a commission man at the stock yards and find out if you can be supplied. In case you can not get the kind of Dorsets you want, do not let that deter you from keeping sheep. You could purchase grade ewes of most any breed and cross them with a pure-bred Dorset buck and in a few years have a high-grade flock of grade Dorsets. Or you could select another breed, Shropshires or Hampshires, etc., and later on change if you felt it desirable. Of course, one is more apt to succeed with a breed or an animal that he fancies, but you will learn to admire other breeds equally as well, especially if they make you more money.

A SUBSTITUTE FOR HAY.

I find that I am going to be short of hay this year and will have to sow a substitute. Would you please tell me what to sow to take the place of hay to the best advantage? The land is a black loam, well-drained, reasonably fertile, and has a small amount of sand. I desire to feed this hay to horses. —H. S. A.

Any of the common grains, such as wheat, oats, barley, make good hay if cut at the proper stage of development, which is at the period of blossoming. That is when the plant contains the largest per cent of digestible nutrients. It is not common to use these plants for hay in this country. Most people seem to think they can get more out of them by allowing them to ripen, saving the grain and feeding the straw.

Peas and oats sown together and cut when the oats are in the milk or a little before, make most excellent hay. Horses and all kinds of stock relish it and do well on it. Millet, which is usually sown as a catch crop, makes excellent hay for all kinds of stock if cut early enough. It must be cut before the seed forms. Sudan grass, which is not well known in this state, is very popular in some sections and is well worth trying, perhaps in a small way at first. Then we have soybeans that make a hay superior to clover hay, and equal or superior to alfalfa for any kind of farm animals. For hay they may be sown broadcast and harvested the same as any hay crop.

Corn fodder drilled quite thickly, a bushel per acre so the stalks will not get too coarse, and but few ears form, makes good roughage. It can be harvested with a grain binder if too short and thick for a corn harvester. It should be well-cured in large shocks and then stored in the bundle so it will not heat.

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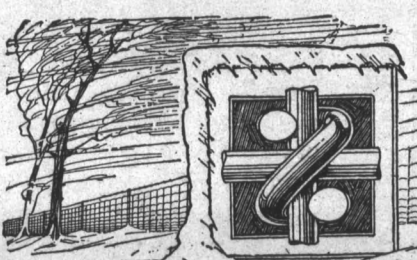
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In "Galvannealed" wire an extra heavy coating of rust-proof zinc is amalgamated INTO the body of the steel wire. In ordinary galvanized wire a thin coating of zinc is merely laid ONTO the steel body of the wire.

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Extra thick zinc coating goes IN.

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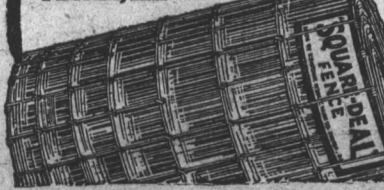
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2 Books FREE

Ropp's New Calculator (worth 50c) figures grain and livestock profits; measures capacities of cribs, wagons, silos; figures interest, wages; contains commercial law, parcel post rates, etc. Sent free with Square Deal catalog that tells all about "Galvannealed"—the Triple-Life Wire. Both books free to land owners.

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LEADS IN CELERY SHIPMENTS.

IN a statement published in the Sunday Kalamazoo Gazette, Kalamazoo is pointed as the leading celery producing center of Michigan, having an acreage of 1,055 acres and a carlot production this year of 282 cars. The Decatur association this week has compiled figures showing the Decatur crop and acreage and find them both in excess of the Kalamazoo figures. Within five miles of the village of Decatur the past year 1,200 acres of this crop was grown and the actual carlot shipment was 491 cars by freight and express. It is claimed that at least thirty per cent of the crop was moved in small shipments and by truck and is not included in the figures given. Decatur leads in the production of celery. When you think celery, forget Kalamazoo and think of Decatur, Michigan.—E. V. Root.



The French government has awarded the Croix de Chevalier du Merite Agricole to Corey J. Spencer, of Jackson, in gratitude for two pure-bred Holstein bulls which he sent the French government following the war, to aid the farmers of that country in rehabilitating their scattered herds.

PROPOSES ALL-AMERICAN WATER ROUTE TO OCEAN.

THE all American Great Lakes to Ocean ship canal proposal has again reached congress in a bill introduced by Daniel A. Reed, of New York state, to incorporate the "Lakes to Hudson Ship Canal Company."

This company proposes to construct a ship canal thirty feet deep and 300 feet wide at the top, with locks 660 feet long and seventy feet wide, and with headway of 120 feet under bridges, to start in Lake Erie near Buffalo and cross New York state to Lake Ontario, thence through the lake to Mexico Bay and across country to Lake Oneida and down the Mohawk, enlarging the Barge canal, to the Hudson River.

Among the advantages claimed for this plan over the proposed St. Lawrence river scheme, are an all-American route, a longer season of open navigation, five feet greater depth, government control of locks, and lower freight rates. Being an all American waterway it would provide for our national defence, and it will not cost the federal government one penny. The United States would not be liable for any debts or liabilities of the corporation, which agrees to maintain the ship canal, including lights and signals, with no tolls charged for passage through the ship canal. The corporation will secure its income from the sale of electric power.

This is not a new scheme. It carries out the recommendations of a federal investigating commission back in the days of President McKinley. But in the present bill the proposal is reduced to a practical proposition, which is worthy of consideration by all who are interested in a lakes to ocean ship canal waterway.

THE LONG-LIFE BATTERY FOR YOUR CAR



Drawn by
H. L. GROUT
for The Electric
Storage Battery
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When is a battery cheap?

The price is only one—and the least one—of three things that tell whether a battery is a good bargain. More important considerations are: How long will it last and how few will be the repairs? One repair job may change the lowest-priced battery into the most costly.

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Direct from Grower to Planter



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Slightly used U.S. Gov't. All Leather Harness purchased for spot cash in enormous lots enables us to smash all prices and give you the saving. Double Ambulance Harness with NEW BRIDLES, for \$32.50. 65,000 SATISFIED FARMER CUSTOMERS. New FREE Bargain Book now ready. Send today. U.S. FARM SALES CO. 155 N. 5th St., Salina, Kans.

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Send Today for Full Details About "Fruit-Fog" The Biggest Thing in Spraying

Let us tell you how Hayes "Fruit-Fog" Sprayers kill that 47% of diseases and pests that drenching with low pressure sprayers cannot touch. The 300 lbs. guaranteed pressure combines with the scientifically constructed Hayes nozzles to give an atomized super-spray which surrounds and penetrates into the smallest niches and crevices. You get larger, finer fruit—and more of it—when you spray with a Hayes "Fruit-Fog" Sprayer.

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Hayes Sprayers are long-lived, have a low maintenance cost, and our repair service is a particular feature. The pump has few parts and is practically corrosion proof. Valves, cylinder, and plungers are the only parts which ever need attention, and you can easily do your own repair work on a Hayes. No other sprayer is so simple in construction, so effective in operation.

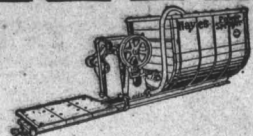
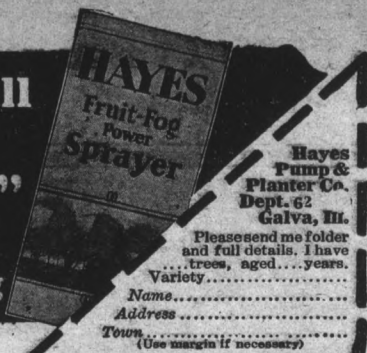
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Hayes FRUIT-FOG Sprayers are priced "right". You can now get this famous outfit in sizes from 3 1/2 to 16 gal. per minute capacity, with or without trucks, engines, or equipment, to suit your ideas of price.

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Clip and send in today the coupon above for new folder showing complete line. Get the advice of spray experts on your requirements.

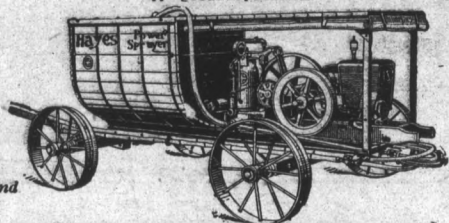
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You can get any size Hayes FRUIT-FOG Sprayer without equipment if you wish—and get FRUIT-FOG results at minimum cost.
Use your own engine, truck and tank, or other equipment which can be worked in. Let us furnish our Hayes high pressure pump and Fruit Fog Guns.



Hayes Triplox—the monarch of high pressure sprayers. No. 1903—a 150 gal. sprayer with a great reputation.



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Big Reduction in Prices. Same high quality we have supplied our customers for nearly 40 years.

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Our catalog tells the secret of growing wonderful crops from Everbearers. Gives cultural instructions for all small fruits. It's worth much but is free. Write today.

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STRAWBERRY PLANTS \$3.90 & Up Grape Vines At Lowest Prices

Bargain prices on heaviest yielding, big rooted, healthy, northern grown plants. Thrive in all soils. Choice of Eaton, Sun Special, Cooper, Premier and others. Prices sharply reduced on Blackberry plants, Black and Red Raspberries, Fruit Trees of finest grades. All stock inspected. Guaranteed. WRITE FOR FREE CATALOG OF BARGAINS. **DASS NURSERY CO., R.R. 8 Bridgman, Mich.**

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of Fruit Trees, plants, Ornamentals, Garden and Flower Seeds, 3 to 4-foot Apple 25c; 3-foot Peach 20c each postpaid. Send for 1924 catalog of Reliable Trees and Seeds. Allen's Nursery & Seed House, Geneva, Ohio.

This Year Try Stahelin's Big Yield Strawberry Plants

Gladoli, Roses Ornamental Shrubbery

Special Price \$2.50 and up
Our prices are very low for high quality stock. Every plant guaranteed absolutely healthy and as described or your money refunded. Write today for our **Full-Color Free Catalog**

Send for our BIG FREE full colored catalog of Strawberries, Raspberries, Blackberries, Apples, etc. **F. C. Stahelin & Son, Props. of BRIDGMAN NURSERY CO., Box 43 Bridgman, Mich.**

Pruning Black Raspberries

(Continued from page 135)

curate time records in picking these blocks, due to so many records of size and weight of fruit, still all three of us who were working on the project agreed that we could pick half again as many plants pruned with the laterals short, as where they were pruned with the laterals medium or full in length. This is an important point from a commercial standpoint as more plants could be picked with the same number of pickers. Also the pickers would be better satisfied and possibly the rate per case could be reduced.

The appearance of block B-A was very attractive. The leaves were large and of good color. The berries were all large and the canes were carrying their crop well. On the other hand, blocks B-B and A-F had smaller leaves of a light yellowish green color. The berries were in many cases small and crumbly, while the canes did not hold up the fruit as well.

Block B-A with the very short laterals, ripened its fruit somewhat earlier than the other blocks. In fact, on the first picking, B-A yielded four times as much fruit as A-F with the long laterals, and twice as much fruit as B-B with the medium laterals. The same ration existed on the second picking. On the third picking they were all about equal, while on the last four pickings the blocks with the longer laterals somewhat outyielded block B-A. To some growers, this point of getting larger yields earlier in the season might be valuable.

As we were picking the fruit, it seemed that the large canes were producing more and larger fruit than the medium and small canes. In order to check this point more thoroughly, all of the special canes were calipered at a point six inches above the ground. The diameter of the cane was then compared with the total yield and size of fruit. It was discovered that the larger the cane, the greater the quantity of fruit that was produced, and also that the berries were larger. This is a finding of great importance, and is directly applicable to the actual practice of pruning. Table 2 shows the average size of canes compared with the total average production and average size of fruit for all pickings.

Table No. 2.

Diameter of Cane.	Yield in Oz.	Average Size of Berries.
16 32nds in.	6.16	.034
18 32nds in.	8.92	.039
21 32nds in.	12.27	.039

A study of Table 2 shows that the canes twenty-one thirty-seconds of an inch in diameter yielded practically twice as much fruit as those sixteen-

thirty-seconds of an inch in diameter, and that the berries were also larger. No doubt this idea can be applied to block B-A which we have just been discussing. For instance, we did not realize when first doing the pruning that the size of the cane was of much importance—therefore, all canes in block B-A had the laterals cut back to four buds in length. It is now evident that possibly we pruned the large canes too severely. A study of all our records would substantiate this viewpoint. No doubt canes over sixteen-thirty-seconds of an inch in diameter could handle laterals six buds in length, and very large canes over twenty thirty-seconds of an inch in diameter could handle laterals eight buds in length.

Now, as to suggestions for pruning black raspberries as a result of this work.

First, the number of canes to leave in each plant will depend entirely upon the vigor of the plant. Only medium and large size canes should be left. The average number will probably be four in most plantations. However, some plants will only be able to handle two or three canes properly while others will be able to handle five canes.

All of the laterals on the cane should be left and pruned back in accordance with the size of the cane. Canes that are less than one-half inch in diameter at a point six inches above the ground, should have the laterals cut back to four buds in length. (See Fig. 1. Cane H). Canes over one-half inch in diameter should have the laterals pruned back to six buds in length. (See Fig. 1. Cane B). Very large canes over five-eighths of an inch in diameter, should have the laterals cut back to eight buds in length. (See Fig. 1. Cane C).

New canes should be pinched back at the height of twenty-four to thirty inches instead of eighteen inches, as has been customary. The buds on the cane itself produce the best fruit when these buds are given a good chance to grow, as they are when the laterals are cut back as described above. By pinching the canes high from fourteen to eighteen fruit buds are left on the cane itself, while only approximately five fruit buds are left on the cane when pinched at the height of eighteen inches. With the laterals pruned shorter than has been customary, there is no danger of the canes breaking over, even when pinched higher. Also, the work of pinching new canes is much easier to do at the height of twenty-four to thirty inches, while picking the fruit is rendered much easier.

NEWS FROM CLOVERLAND

LOAN ASSOCIATION HOLDS ANNUAL MEETING.

THE Houghton-Chassell Farm Loan Association held its annual meeting at Houghton recently, electing officers for the ensuing year. It appears from the report of the association that during the past year it has placed among farmers loans aggregating \$182,000. This brings the sum of all loans since the establishment of the association to \$355,000. The 118 members of the association hold \$17,750 in stock.

WOULD PROTECT PARTRIDGES.

LOCAL sportsmen expect that shortening the open season on partridge will be considered at the spring meeting of the Upper Peninsula Sportsmen's Association. Sportsmen here, it is stated, anticipate that the legisla-

ture will close the partridge season entirely for the lower state and, in order to prevent the extermination of the bird in northern Michigan through the crowding of hunters into the northern woods, it is deemed desirable that the season here should be shortened.

EVERGREENS SHELTER BIRDS.

AT a recent meeting of the Ishpeming's Sportsmen's Association there were presented reasons against the cutting of Christmas trees which are somewhat different from those commonly heard. It was stated these trees are the houses of partridge and other birds, and provide them with shelter from storms and predatory animals. It was reported that land-owners in Keweenaw county have posted their lands against trespassers and that no trees were cut there last fall.

KEITH'S NEW LAND Strawberry Plants

Grow Keith's Strawberries For Big Profits
You Can Make \$500 to \$700 Per Acre Growing Strawberries from Keith's Big, Healthy New-Land Plants

Grown on a new, rich, sandy loam, an ideal soil for growing Vigorous plants which makes them Big Profit Winners.

OUR NEW-LAND PLANTS

grown near the Lake shore insure your success in growing strawberries. Every plant grows and produces more Bigger, Better Berries than plants grown on old soils. Our New-Land is the best plant soil filled with Natural Plant Foods which gives Keith's New-Land Plants their heavier roots, size and vigor over other plants. We ship them freshly dug direct to you from our fields and Guarantee arrival in good growing condition.

We guarantee our New-Land plants to reach you in good growing condition, to be strong, healthy and exactly as described or refund your money. Customers always satisfied with our money-back guarantee — We make good.

Wait For Our New Catalog — It is Handsomely Illustrated
It contains many pictures of our New-Land plants — explains why they are so valuable for you to set — pictures the Biggest yielding varieties of Strawberries, Raspberries, Blackberries, Grapes, etc., some in natural colors. Get this Catalog on Special Delivery — free to customers. Send today, receive it tomorrow.

KEITH BROS. NURSERY, BOX 902, SAWYER, MICHIGAN

SHARPEN THE PENCIL NOW.

IT is none too early to make definite plans for the crop season of 1924. One farmer who believes this, is planning definitely on paper just what he proposes to do with each field. He says that no doubt his plans will need revising, but the 1924 crops will go in only after a lot of careful thought. He is making alfalfa one of the staples in his rotation, and thoroughly believes that this crop is going to do much toward making his farming more successful.

HAS UNIQUE METHOD OF TREATING WHEAT.

THE copper carbonate treatment for stinking smut of wheat is now being quite widely practiced where this smut is giving trouble. Many different methods of applying the chemical has been worked out by farmers. One of the most successful is that devised by C. T. Gregory. His apparatus consists of a barrel mounted so it can be turned with a crank, and in the side of which a door has been cut. Through this door wheat and the necessary copper carbonate is placed in the barrel, which is then revolved. One farmer was able to treat 124 bushels in four hours. This treatment is so easy that farmers suffering loss from this smut should take advantage of its another year.

DOING BIG BUSINESS.

MORE than two billion dollars of business was done by farmer business organizations in 1923, according to estimates made by the United States Department of Agriculture. The estimates are based upon reports from 6,639 organizations which did a total business of \$1,200,000,000. Reports have been received from 8,313 associations and additional reports are yet to come in from approximately 2,000 organizations.

Of the 3,313 organizations reporting, approximately ninety per cent were primarily engaged in selling farm products, and about ten per cent in the collective purchasing of farm supplies. Grain marketing organizations comprised more than thirty per cent of the associations; dairy products twenty-two per cent; live stock fourteen per cent, and fruits and vegetables eleven per cent.

REVIVES NATIONAL BLUE-SKY BILL.

THE Denison blue-sky bill aimed at fake oil, mining and other companies, which passed the house last year, will be reported to the house at an early date, with probabilities that it will become a law. The Denison bill would forbid the use of the mails and other interstate agencies for transporting, promoting, or procuring the sale of securities contrary to the laws of the states. At present offenders escape the state laws by reason of their residence in other states, and there is no federal statute to cover their case. Maximum penalties of \$2,000 fine, two years' imprisonment, or both, are provided for the first offense under the proposed law. Subsequent offenses would be punished by \$5,000 fine and five years' imprisonment or both.

TO SELL SEED IN SEALED SACKS.

THE Michigan State Farm Bureau has decided to distribute all field seeds, with the exception of cereals, in sealed bushel, half-bushel, and peck bags. The ultimate consumer will get a sealed package when he goes to buy seeds from his organization. The organization hopes hereby to prevent loss and deliver this seed to the final consumer in the best possible shape.

"Jumped-at" conclusions usually look frightened.

\$2 DOWN

ONLY A Year to Pay



Think of it! You can now get any size of the New Butterfly Cream Separator you need direct from our factory for only \$2 down and on a plan whereby it will earn its own cost and more before you pay. You won't feel the cost at all. Our low prices will surprise you. For example:

\$44 buys the No. 2½ Junior, a light running, easy cleaning, close skimming, durable, guaranteed separator. Skims 120 quarts per hour. You pay only \$2 down and balance on easy terms of

Only \$3.50 a month; no interest extras. Prices we quote include everything. We also make 4 larger sizes of the

New Butterfly

up to our big 600 lb. capacity machine shown here—all sold at similar low prices—on our liberal terms of only \$2 down and more than a year to pay. Every machine guaranteed a lifetime against defects in materials and workmanship.

30 Days' Trial

You can have 30 days' trial on your own farm and see for yourself how easily one of these splendid machines will earn its own cost and more before you pay. Try it alongside of any separator you wish. Keep it if pleased. If not you can return it at our expense and we will refund your \$2 deposit and pay freight charges both ways.

Catalog Folder FREE

Why not get one of these big labor-saving, money-making machines while you have the opportunity to do so on this liberal self-earning plan? Let us send you our big, new, illustrated catalog folder showing all the machines we make and quoting lowest factory prices and easy payment terms. We will also mail you a book of letters from owners telling how the New Butterfly is helping them make as high as \$100 a year extra profit from their cows. Sending coupon does not obligate you in any way. Write today.

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Milk and cream spouts are open—easy to clean

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All shafts are vertical and run on "frictionless" pivot ball bearings making the New Butterfly the lightest running of all separators

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Gentlemen:—Without obligation on my part, please mail me your FREE Catalog Folder and full particulars regarding your special easy payment offer on the New Butterfly Cream Separator.

I keep.....cows

Name.....

P.O.....

State.....R. F. D.....

ALBAUGH-DOVER CO.
Manufacturers
2165 Marshall Blvd., CHICAGO, ILL.

Top of Milk Tank is waist high—easy to fill

Milk and cream spouts are open—easy to clean

One piece aluminum skimming device is very easy to clean

All shafts are vertical and run on "frictionless" pivot ball bearings making the New Butterfly the lightest running of all separators

More than 175,000 New Butterfly Cream Separators are now in use

Ten of His Neighbors Have Bought the New Butterfly

We can recommend the Butterfly in every way, and I can recall the names of ten who have bought since I have this one. About a month ago I had your catalog sent to two other parties, and they both have ordered. Yours truly,
BERT I. VICKERY, Minooka, Ill.

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More than



Not time to PLOW

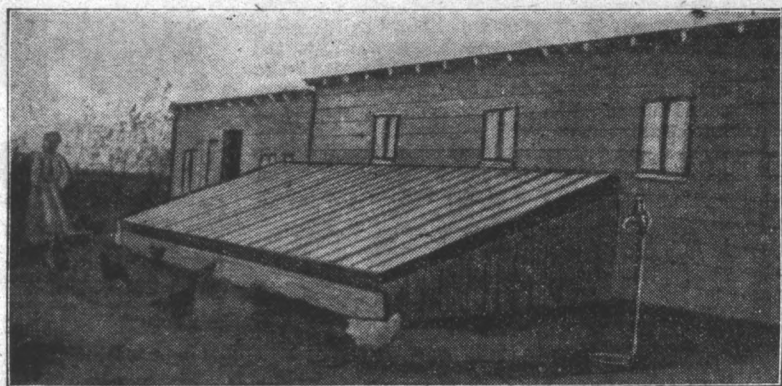
But a mighty good time to be considering whether or not you can depend on your old plow to prepare properly your fields for biggest possible yields this year.

Thousands of farmers everywhere find their confidence in the James Oliver No. 11 Sulky has never been misplaced. It has always been their dependable helper in raising bigger crops.

For full information and name of your Oliver dealer write the nearest Oliver branch.

OLIVER

OLIVER CHILLED PLOW WORKS
SOUTH BEND, IND.



GLASS CLOTH

Glass Cloth shuts out cold, wind and rain, admits sunlight and heat. Retains heat better than glass—only one-tenth the cost. EXTENSIVELY used for poultry houses, scratch sheds, brooder houses, enclosing porches, storm doors and windows, hot-beds, cold frames, etc.

HOT BEDS

Grow Healthy, Vigorous Plants

Glass Cloth sheds a soft, warm, even light, and diffuses the sun's rays to all corners, giving the soil proper warmth to hasten germination of seeds and growth of plants. Uniform light produced gives plant smooth green color and stalky, even, vigorous growth.

INTRODUCTORY OFFER 6 yds. postpaid, \$2.10
15 yds. postpaid, \$5.00
\$5.00 will cover shed 9x15 feet

TEST 10 DAYS, if not satisfied your

TURNER BROS.,

Dept. 98,

Bladen, Nebraska

money will be refunded on return of goods.

HEALTH QUARTERS STRONG, HUSKY CHICKS

Produce healthy, active chicks by using Glass Cloth in the construction of CHICK HOUSES. Keeps the temperature uniform, gives proper ventilation and weather protection. Makes a comfortable, inviting atmosphere, enabling chicks to exercise and scratch in comfort regardless of cold or stormy weather.

SCRATCH SHEDS

Scratch sheds made from glass cloth insure comfort for your flock in bad weather. Cozy scratch sheds make health and eggs. Don't turn your hens outside to suffer when 5c per hen will cover shed like above with transparent, waterproof, weatherproof GLASS CLOTH. One stormy spell will cost more in loss of eggs than the cost of this Glass Cloth scratch shed.

PRICE Sq. yd., 40c; 5 yds. at 35c; 25 yds. at 33c; 100 yds. at 29c. Add 3c per yard for postage.

Avoid Imported Seed

More Evidence Against the Use of Seed from Abroad

By I. R. Waterbury

GOOD stands of clover and alfalfa are essential to the prosperity of Michigan farmers. There are many factors entering into the securing of good stands and good crops of these legumes, not the least of which is the quality of the seed sown. Without good seed of a hardy strain, success with these crops is doomed to failure from the start.

Government statistics on the production of clover seed during the past season, give the total as 75,060,000 pounds, as compared with 112,500,000 pounds the previous year. This is a smaller crop than has been produced since 1919 when the crop was 65,940,000 pounds. In the spring following that short crop, clover seed was so extremely high in price as to greatly curtail the acreage sown.

At the present time clover seed is not abnormally high, considering the comparatively short crop in the United States last year, but clover seed of the quality which should be sown on Michigan farms is not as plentiful as in most seasons, and every farmer should pay special attention, not only to the apparent quality and purity, but to the source of the clover seed which he purchases for next spring's seeding.

Reliable information indicates that the short crop in this country is being supplemented by liberal importation of foreign clover seed. A recent report from the United States Department of Agriculture indicates that between July 1, 1923, and January 15, 1924, close to seven million pounds of red clover seed has been imported into this country, and that over two million pounds of this amount came in during the first fifteen days of January. Previous reports indicate that this foreign clover seed did not start coming in to any great extent until the first of December since which date importations have been averaging close to a million pounds a week, and available information indicates that large quantities are now in transit.

Mr. J. C. Hackleman, of the University of Illinois, and secretary of the International Crop Improvement Association, places his estimate on the threatened importation of foreign clover seed as high as thirty million pounds, or enough to seed three million acres, which is coming mostly from France, Italy, South America and South Africa. Without counting on probabilities it is certain that enough of this foreign clover seed has already been imported during the last six months to seed well toward a million acres.

This report also indicates that between July 1, 1923, and January 15, 1924, over eight and a half million pounds of alfalfa seed was imported into this country, over one million of which came in between January 1st and 15th of this year, which shows that this seed is still coming in large quantities, largely from the same countries from which the clover seed is coming as indicated above.

The significance of these large importations of clover and alfalfa seed, and the danger to farmers who purchase their seed on the open market without reference to its source, is indicated by the fact that experiments in our own state, and many other northern states, indicate that much of this seed is nearly worthless for seeding in our latitude. It winter-kills badly during the first winter, and what does come through the winter gives poor yields as compared with hardy strains of seed adapted to our latitude, with little aftermath following the first cutting.

Importers of this foreign seed have made the claim that sweeping statements against imported seed are un-

justified for the reason that seed from England and Germany and North Central sections of Europe is adapted to our American climate. The report of the United States Department of Agriculture, however, shows that comparatively little of this better grade of foreign seed is coming in. For the first fifteen days of January the report states that 74,700 pounds of seed came from England, and 22,000 pounds from Germany, making a total of only 96,700 pounds of a total of 2,035,000 pounds imported during this fifteen-day period, or less than one-twentieth of the total. According to this report about 1,750,000 pounds came from France, 54,000 pounds from Italy, and 91,000 pounds from Chili during the first fifteen days in January.

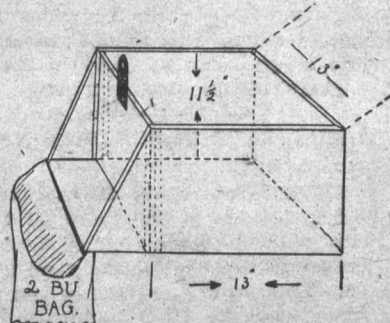
In view of these facts, and the further fact that results of experimental trials in this country in various states indicate that our own seed can be expected to give better results than any of this imported seed, and the fact that the great bulk of this foreign seed has been indicated to be practically worthless in our latitude, it stands Michigan farmers in hand to secure their seed from a reliable source, getting Michigan-grown seed if possible, or seed from some known northern section from a source of undoubted reliability if Michigan-grown seed is not readily available.

Michigan had a fairly good crop of clover seed and farmers who get busy at once should be able to fill their requirements with the local product. There is every reason for taking early action in the securing of clover seed for next spring's sowing. The present price is not excessive considering the country's short crop in 1923. The probabilities are that the price will grow stronger instead of weaker, particularly for good grades of seed, but in any event this is a particularly poor time to buy a cheap grade of seed. This is always poor policy, but even poorer this year than usual for the above named reasons.

There is every reason to believe that these heavy importations of foreign seed will continue, due to the need of an outside market by European farmers and the profit which importers can make from it. It is only by early purchases of clover and alfalfa seed from the most reliable sources that Michigan farmers can be sure of getting a quality of seed best adapted to their use and avoid the danger of possible serious loss through the sowing of seed containing a heavy mixture of this imported stock.

HAS BOX FOR SACKING GRAIN.

THE accompanying sketch of a box which I have drawn will, if built according to measurements, hold one bushel of the small grains. The dimensions for a box that will hold half a bushel are ten inches square on the bottom and ten and three-quarters



inches deep, inside measurements.

To sack grain with this device is a real pleasure after sacking with the ordinary steel bushel measure. You can hold your sack under the end and open the shutter,

WILL SAVE MICHIGAN FARMER HALF A MILLION.

ACCORDING to the best authorities, the recent order of the Interstate Commerce Commission, abolishing one of the freight rate zones in this state, will save farmers in thirty-two counties at least \$500,000 on out-going and incoming freight. Under the new order, the zone system still stands but has been greatly modified to the advantage of the shippers.

WILL INCREASE PACKING PLANT CAPACITY.

MENOMINEE has a packing plant which is of interest to local farmers, and the recent report of the secretary shows that this industry is forging ahead. For example, last year this plant produced 112,000 more pounds of sausage than during the previous year, the aggregate output being close to 1,000,000 pounds. The slaughter of animals at this establishment amounted last year to 1,200 head of cattle, 2,000 calves, 3,155 hogs, and 150 sheep. Over 50,000 pounds of lard were turned out, while the ham and bacon product amounted to 125,000 pounds. The farmers and wage-earners serving the plant received \$217,000. The United States government maintains an inspector at the plant. It is stated that farmers receive Chicago prices for their stock; thus saving freights to the close-by local market. The establishment plans to expand its facilities in accordance with the expanding live stock industry of the section.

RADIO BECOMES A FARM IMPLEMENT.

IN a survey of 1,200 representative farmers by the department of agriculture, more than fifty per cent owned tube radio sets, employing three or more tubes. More than seventy-five different makes of sets were found among the manufactured sets purchased, although the bulk were confined to about fifteen makes, which have been more or less widely advertised. The average cost of the manufactured sets was \$172. Comparatively few of the home-made sets operate crystal receivers. The average cost of the home-made tube sets was \$83. The survey was made in practically every state in the Union.

TIPS FOR TAXPAYERS.

IF you are single and support in your home one or more relatives over whom you exercise family control, you are the head of a family and entitled, in your income-tax return for the year, 1923, to the same exemptions granted a married person. These are \$2,500 if the net income was \$5,000 or less, and \$2,000 if the net income was more than \$5,000. In addition the head of a family may claim a \$400 credit for each person dependent upon him for chief support if such person is under eighteen years of age or incapable of self-support because mentally or physically defective.

For example, a son supports in his home an aged mother and two sisters fourteen and sixteen years of age. His net income for 1923 was \$3,000. He is entitled to an exemption of \$2,500 plus a \$400 credit for each dependent, a total of \$3,700. While he pays no tax, he must file a return, because his net income was in excess of \$1,000.

An exemption as the head of a family can be claimed by only one member of a household.

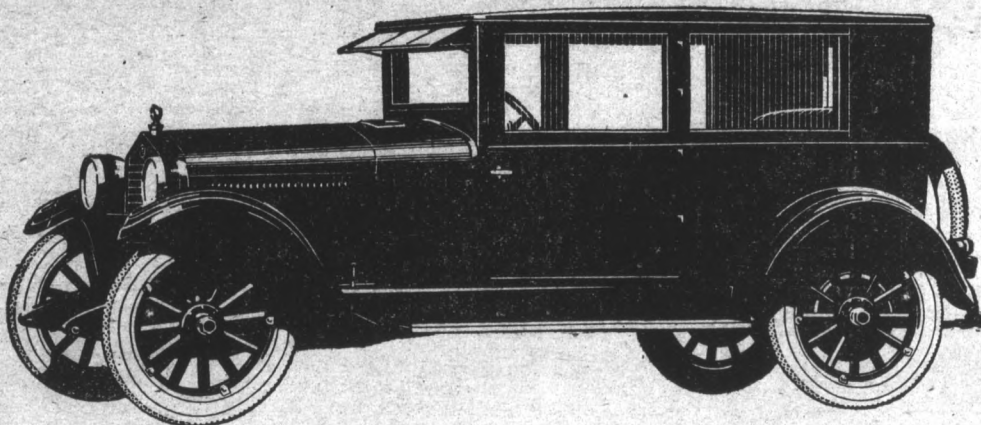
The discovery of things which heretofore have been hidden to you, is what makes life worth living.

Wisconsin farmers used 75,000 tons of limestone in 1923, and there is a strong probability that this amount will be doubled in 1924.

The New ESSEX

A SIX

Built by Hudson under Hudson Patents



A 30 Minute Ride Will Win You

Essex closed car comforts now cost \$170 less than ever before. Also with this lower price you get an even more attractive Coach body and a six cylinder motor built on the principle of the famous Hudson Super-Six.

It continues Essex qualities of economy and reliability, known to 135,000 owners. It adds a smoothness of performance which heretofore was exclusively Hudson's. Both cars are alike in all details that count for long satisfactory service at small operating cost.

Gives Ideal Transportation

You will like the new Essex and its nimble ease of operation. Gears shift quietly. Steering is like guiding a bicycle, and care of the car calls for little more than keeping it lubricated. That, for the most part, is done with an oil can.

The chassis design lowers the center of gravity, giving greater comfort and safety at all speeds, on all roads. You will be interested in seeing how this is accomplished.

Greater fuel economy is obtained. The car is lighter, longer and roomier. You will agree that from the standpoint of appearance, delightful performance, cost and reliability, the new Essex provides ideal transportation.

The
Coach
\$975

Touring Model - \$850
Freight and Tax Extra

ESSEX MOTORS

DETROIT, MICHIGAN

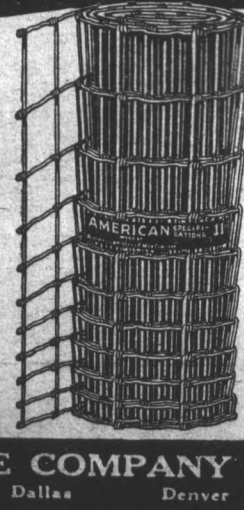
American Fence

ARROW R.R. RAIL SECTION T-STEEL POSTS



American Fence is made of full gauge wire, full weight and full length rolls. Use American Fence for economy—long life service and more dependable stock and crop protection.

Ask your dealer for Arrow Tee Steel Fence Posts—built like a Railroad Rail—with larger anchor plates which lock the post into the ground as driven. Frequent notches provide means for attaching every line wire if desired.



AMERICAN STEEL & WIRE COMPANY
 Chicago New York Boston Dallas Denver

KITSELMAN FENCE

GET IT FROM THE FACTORY DIRECT

A. J. Elkins, Coral, Mich., says: **"Saved About 20c a Rod."**

Cut your own fence costs to the bone by buying direct from us at Lowest Factory Prices. **We Pay the Freight.**

Write today for Free 100-page Catalog of Farm, Poultry and Lawn Fence, Barbed Wire, Gates, Posts, and latest low prices. **KITSELMAN BROS. Dept 278 MUNCIE IND.**
America's Oldest Fence Manufacturers.

Corrugated Metal ROOFING

\$3.45 per 100 sq. ft.

Think of it. We can now sell Excell Metal Roofing, 23 gauge corrugated at only \$3.45 per 100 sq. ft. painted. Galvanized, only \$4.80. If you have been waiting for metal roofing prices to come down, here they are—direct from factory prices—lower than you can get anywhere else. Send for our New Catalog covering all styles Metal Roofing, Siding, Shingles, Ridging, Ceiling, etc., will save you money.

PREPARED ROOFING ONLY \$1.05

Don't buy Roofing, Paints, Fencing, Gas Engines, Tires—anything you need until you get our latest catalog. You can see and try our roofing before you pay. All sold on money back guarantee. Write for Money Saving Catalog today.

The United Factories Co., 405 Marion Bldg., Cleveland, Ohio

Features of the Program

For Farmers' Week at M. A. C. February 4th to 8th

DETAILED arrangements for what promises to be the most carefully studied program yet put on at the Agricultural College at East Lansing, have been completed. Below are given the main features of both the program and the exhibits, except the women's schedule, which appears elsewhere in this issue on the Household Page.

Monday, February 4.

6:30 P. M.—Motion pictures.
7:30 P. M.—Music.
8:00 P. M.—Debate, two members of Varsity Debating Team.
8:45 P. M.—Play, by M. A. C. Colombine Players.

Tuesday, February 5.

1:30 P. M.—Band concert.
2:00 P. M.—Address, "The Railroad and the Farmer," E. E. Ewing, Traffic Counsel, Michigan State Farm Bureau.
2:45 P. M.—Address, "Effect of Tuberculosis on Live Stock Marketing Prices," H. R. Smith, Live Stock Commissioner, Chicago, Ill.
3:30 P. M.—Music.
3:45 P. M.—Address, "Agricultural Conditions in the British Isles," O. E. Reed, Professor of Dairy Husbandry, M. A. C.
7:00 P. M.—Formal opening of New Home Economics Building, and reception by M. A. C. faculty.

Wednesday, February 6.

1:30 P. M.—Band concert.
2:00 P. M.—Address, "Increased Market Prices Through Standardization of Grades," W. C. Hartman, Director, Bureau of Foods and Standards, Michigan Department of Agriculture.
2:45 P. M.—Address, "Effect of Dependable Seed on Agriculture," J. W. Nicholson, Manager Seed Department, Michigan State Farm Bureau.
3:30 P. M.—Music.
3:45 P. M.—Address, "Influence of Social Life on the Future of Agriculture," L. J. Tabor, Master National Grange, Columbus, Ohio.
7:30 P. M.—Basket ball game, M. A. C. vs. University of Michigan, (300 seats have been reserved and will be sold to Farmers' Week visitors at general admission prices).
7:30 P. M.—A four-act comedy will be given by the College Dramatic Club in the Home Economics Building for those who do not attend the game.

Thursday, February 7.

1:00 P. M.—Michigan Agricultural College parade.
1:30 P. M.—Band concert.
2:00 P. M.—Address, "Problems of Successful Agriculture," Eugene Davenport, former Dean of Agriculture, University of Illinois, Woodland, Mich.
2:45 P. M.—Address, "Cooperation in Our Future Agriculture," J. T. Horner, Associate Professor of Economics, M. A. C.
3:30 P. M.—Music.
3:45 P. M.—Address, "Marketing Opportunities for Michigan Farmers," Verne Branch, Director of Municipal Markets, Detroit, Mich.
6:30 P. M.—Motion pictures.
7:30 P. M.—Address, "The Future of Agriculture," Dr. Robert S. Shaw, Acting President, Michigan Agricultural College.
8:15 P. M.—Music.
8:30 P. M.—Address, "Germs—What They Can Do to Us and For Us," Dr. Hugh Cabot, Dean of School of Medicine, University of Michigan.

FEATURES FOR FARMERS' WEEK.

(Pavilion, Agricultural Building).
Monday—Sale of Holstein-Friesian cattle.
Tuesday—Live stock judging contest at eight o'clock, open to the general public. Awards will be made to the winners.
1:00 P. M.—Judging conference led by William Moscrip, famous Holstein judge.
Wednesday, 8:00 A. M.—Judging contest open to the public.
Thursday—High school students' judging contests in live stock, grain and horticulture.
Friday—Shorthorn cattle show and sale.

ASSOCIATIONAL MEETINGS.

THE number after the name of each association indicates the room in the Agricultural Building, or other building where sessions are to be held.
Farm Bureau, Thursday, Room 402.
Crop Improvement, Wednesday and Thursday, Gymnasium.
Breeders' and Feeders', Tuesday, Gymnasium.
Sheep Breeders' and Feeders, Wednesday, Room 111.

Oxford Sheep.
Shorthorn Breeders, Thursday, 3:30, Room 109.
Hereford Breeders, Tuesday, Room 100.
Aberdeen Angus, Tuesday, Room 111.
Red Polled Breeders, Tuesday, Room 102.
Guernsey Cattle, Tuesday, Room 213.
Jersey Cattle, Tuesday, Room 110.
Ayrshire Breeders.
Holstein-Friesian, Tuesday, Room 402.
Swine Breeders, Monday, Room 402.
Duroc Jersey, Monday, Room 213.
Poland China, Monday, Room 402.
Hampshire Swine, Monday, Room 102.
Chester White, Monday, Room 207.
Horse Breeders, Wednesday, Room 109.
Potato Producers, Tuesday, Room 109.
Soils, Tuesday, Wednesday, Thursday, Room 207; Friday, Room 206.
Muck Farmers, Tuesday, Wednesday, Thursday, Room 206.
Poultry, Wednesday, Thursday and Friday, Poultry Building.
Press, Thursday, 1:00 P. M., Room 207; Friday, Room 207.
Economics, Friday, Room 109.
State Nurserymen, Wednesday and Thursday.
County Agents, Monday, Room 206.
Home Demonstration, Friday, Home Economics Building.
Boys' and Girls' Club, Friday, Agricultural Building.
High School Contests, Thursday, Pavilion.
Holstein Sale, Monday, Pavilion.
Shorthorn Sale, Friday, Pavilion.
Judging Contest, Tuesday and Wednesday, Pavilion.
Housewives' Congress, Tuesday, Home Economics Building.
Military Exhibitions, Tuesday, Wednesday, Thursday and Friday, Home Economics Building.
O. I. C. Swine, Monday, Room 111.
Brown Swiss, Tuesday, Room 1, Dairy Building.
County Y. M. C. A., Monday, Tuesday and Wednesday, Room 101.
Spotted Poland China, Monday, Room 110.

EXHIBITS.

Central Michigan Rabbit Association.
Blue Ribbon Poultry Show.
Michigan Crop Improvement Grain and Potato Show.
Horticultural Show.
Engineering Exhibits.
Military Demonstrations and Parade.

POTATO PRODUCERS' MEETING.

THE following is the program of the Potato Producers' Association, to be held in Room 109, Main Agricultural Building, February:

Thomas H. Buell, Chairman.
Potato Market Requirements, by G. V. Branch, Director Municipal Market, Detroit, Michigan.
"Lessons Learned from Market Reports," by R. H. Shoemaker, Bureau of Markets, Grand Rapids, Michigan.
"Standardization," by W. P. Hartman, Director, Bureau of Foods and Standards, Department of Agriculture, Lansing, Michigan.
"Results of Investigations Made on Potato Markets," by Dr. J. T. Horner, Economics Department, M. A. C.
"The Quality Factor in Cooperative Potato Marketing," by M. J. Wager, Sales Manager, Michigan Potato Growers' Exchange, Cadillac, Michigan.
"The Producer's Problem," by H. C. Moore, Potato Specialist, M. A. C.
This meeting is not the annual meeting of the Michigan Potato Producers' Association.

GRANGE OPPOSES SALES TAX.

MR. A. M. LOOMIS, representing the National Grange, spoke in opposition to a sales tax and any reduction in surtaxes, and urged the repeal of the war tax on telephone messages. He favored amending the income tax law to provide for the taxing of stock dividends, and an amendment to the Constitution forbidding the issuance of tax-exempt securities.

Sameness makes life monotonous. Vary your interests and you will add interest to life.

One Million Friends Buy From MY SEED BOOK

There's A Reason
These million customers say I give the best service, the biggest values in seed they ever received for their money, and good seed means bigger crops and increased profits. The more particular my customers are as to QUALITY, GERMINATION, PURITY and PRICE the better I like it. If this is what you want, write me. Let me show you why you will want to join my big family of satisfied customers.

REDHEAD GIANT TOMATO

A new tomato. The best of over 1,000 different tomatoes I have tested in years. An early tomato, deep red in color, delicious in flavor and a heavy producer. Y. R. Lawless of Marshall, Mo., cleared \$960 on one-fourth acre.

NEWEST AND BEST IN SEEDS

Whether you want a single packet or several bushels of seed you will find my catalog a big help in buying seeds, a help in saving money, a help in getting exactly the variety of vegetables, flowers or field seeds you want. It is packed full of information on selecting, planting and growing. Everything is accurately and fully described. All the standard varieties that you plant every year and a lot of specialties you never heard of before. Quality in seeds is the big reason for my success and the new things I bring out are simply a hobby of mine to develop better varieties. Anyway, send for my catalog and see what is new and the prices I make on standard varieties.

3 Gladiolas Free

If you will send me the names of two neighbors or friends who are seed buyers when writing for your catalog, I will send you three Gladiolus bulbs FREE. The finest varieties and the best gift that I could think of to offer you for helping me get acquainted with 800,000 more seed buyers this year.

Henry Field Seed Co.
Box 7
Shenandoah, Iowa

SPRAYS 10 ACRES A DAY

Just walk and press the nozzle—no work—no trouble.
SMITH BANNER
No. 22 COMPRESSED AIR SPRAYER
For spraying potatoes, vegetables, fruit trees, grapes, berries and cotton. For whitewashing, spraying, disinfectant, fly oil, etc. For washing autos and windows—it does many jobs and does every job well.
Galvanized steel or solid brass tank holds four gallons—a few strokes of pump compresses air enough to discharge contents—brass non-clog nozzle—fine mist or coarse spray as desired.
Sold by hardware, implement and seed stores—insist on a genuine Smith Banner to insure against disappointment. If your dealer cannot supply you, write us.

D. B. SMITH & CO.
40 Main Street, Utica, N. Y.

HUDSON

Sprayers DO Spray
Beware the low pressure sprinker—good spraying demands high pressure. The extra capacity HUDSON pump and the sturdy tank riveted like a steam boiler, insure the highest working pressure of any compressed air type. Get this Free Book

The High Pressure Sprayer
Equipped with a combination nozzle for light or heavy mixtures. Leak-proof shut-off. Can be furnished with an extension for spraying fruit trees. Free Book—"When, What and How to Spray." Write today for your copy or ask your Home Town Hudson Dealer.

The Hudson Misty does fine work on small jobs. Thousands in use. Strong, double seamed, leakproof.

HUDSON MFG. CO.
Dept. 4132 Minneapolis, Minn.

FREE This is Your Copy of Our 1924 Berry Plant Book

It is ready for you. 40 large pages of valuable information for berry growers, beautifully colored illustrations of the finest varieties. A helpful guide to successful berry culture—a necessity to every fruit grower. Our

NEW GROUND STRAWBERRY PLANTS

are the product of the country's three leading Berry Plant Growers, now consolidated. Every plant is strong, healthy, deep-rooted—the sure to grow kind. Best because grown on new ground under expert supervision. Lowest priced because of the enormous quantity grown.

Our Money Back Guarantee
is a protection against loss. The kind that protects. Every B-W-A N Plant is guaranteed to live and grow, true to name and free from disease. GIVEN with our compliments with each copy of our Berry Plant Sales Book—a liberal packet of choice assorted Pansy Seed for the lady of the home—Both are now ready for you.

Baldwin-Whitten-Ackerman Nurseries
Box 92 Bridgman, Mich.
Successors to
O. A. D. Baldwin, J. R. Whitten & Son, A. R. Weston & Co.

Stevensville Strawberry Plants Produce Bigger Profits

Grow berries that bring top prices. Our select varieties are large in size, firm, wonderfully luscious, big yielders. Healthy, vigorous, deep rooted. Ideal for all soils. Cash in on our 60 years experience in developing big pay strains. Cooper, World's biggest berry. Champion, the ever-bearing sensation. Premier, earliest of all. Splendid line of Red and Black Raspberries, Blackberries, Currants, Dewberries, Gooseberries, Ornamental Shrubs, Gladioli, Tulip Bulbs, Roses. **GRAPES** Tremendous stock. All at big savings. Satisfaction Guaranteed or money back. Send for large beautiful FREE Catalog in true colors. Tells how to plant, care for and raise big crops. Valuable book to own.

STEVENSVILLE NURSERIES
Box 13 Stevensville, Michigan

STRAWBERRY PLANTS Complete line

Small Fruit Plants, Asparagus Roots, Roses, Gladioli, Perennials, Ornamental Shrubbery, Etc. CATALOG FREE. **WATSON'S STRAWBERRY ACRES** Grape Vines \$25 and up per thousand R. 8, Box 7, Grand Rapids, Mich.

GOOD SEEDS

Grown From Select Stock—None Better— 54 years selling good seeds to satisfied customers. Prices below all others. Extra lot free in all orders I fill. Big free catalogue has over 700 pictures of vegetables and flowers. Send your and neighbors' addresses. **R. H. SHUMWAY, Rockford, Ill.**

CONDON'S GIANT TOMATO

EVERBEARING
"QUEEN OF THE MARKET." Big Money-Maker. Large, solid fruit; excellent canner. To introduce to you, our Northern Grown Live Seeds and Plants, we will mail you 125 seeds of Condon's Giant Everbearing Tomato and our Big 1924 Garden and Farm Guide, a 192-page Book, tells how, and what to plant. Prices lower than ever. SEND POSTAL TODAY.
CONDON BROS., Seedsmen
Box 138 River Valley Seed Farm ROCKFORD, ILLINOIS

\$100 Dollars cash Prizes

For the Largest Tomatoes
You can share in this money—it is open to all our customers. The only condition is that the tomatoes be Isbell's Colossal—the finest quality and largest grown.

12 Cash Prizes
There are twelve prizes—all cash. Have a bumper crop of this finest variety—big yielding, delicious tomatoes, that bring top prices and are prize winners at county and state fairs—and share in these cash awards.

Details in Free Catalog
All details of these Prize Awards are given in the big Isbell's 1924 Seed Annual—the most complete and authoritative book of its kind. It tells you how to choose garden, field and flower seed, gives information on soil and cultural directions for all crops and is brim full of money-making suggestions on choosing seeds and caring for crops. It's FREE! Send for your copy today.

S. M. ISBELL & CO.
106 MECHANIC ST.
Jackson (61) Michigan

FREE
ISBELL'S SEEDS

From Michigan to Boston

A National Grange Tour in 1924 Under Auspices of the "Michigan Automobile Tours"

By J. H. Brown

DURING the 1923 tour to Washington we were repeatedly urged to conduct a special tour for the National Grange. National Master S. J. Lowell, Editor Charles M. Gardner, of the National Grange Monthly, and the masters of several state granges, especially Harry A. Caton, of Ohio State Grange, asked us to make the 1924 tour one in which the grange could have an official part and call it a National Grange Tour.

After thinking the matter over we decided to lay out the route for the sixth annual "Michigan Automobile Tours" over an entirely different section of the country, going by way of New York City and Boston, and thus make an ideal tour route that the grange could utilize in the most practical and profitable manner. And so we have laid out an 1,800-mile route, over paved roads all the way, outside

arrangement we have made so the tourists can spend two full days sight-seeing in New York City and sleep in their own beds in and around their cars each night. It is but twenty-four miles from Tarrytown to Old Trinity Church on lower Broadway, and the fare is but a few cents each way on the suburban cars. It will make a fine and economical plan to see the big city and have no hotel bills to pay. We have already made contracts for special rates for boat trips, sight-seeing cars, etc., in New York and Boston.

Next day drive by way of Danbury, Waterbury and Hartford, to Springfield, Massachusetts. The National Grange, the granges of New England, and the Springfield city officials and chamber of commerce, will give us a splendid reception, with bands, fireworks, and a fine program all day. So



A Group of the 1923 Michigan Farmer Tourists on the Lawn at Mt. Vernon.

of Michigan, and a portion of the Ontario road, to take three weeks and two days' time during the month of August.

The Michigan Automobile Tours 1924 caravan will gather at the Horton Farm, at Fruit Ridge, on Thursday, August 7. It looks as though there would be cars enough registered long before spring to make up the limit of three divisions. Over fifty Michigan cars are registered to date, many of the owners having been in the Washington tour last August, and some have been with us every year. We have promised Harry A. Caton, Master of Ohio State Grange, to accept fifty cars from that state. There were twenty-seven Ohio cars in the tour last year, and Master Caton was with us all the way. He has referred to these tours in his annual address to the Ohio State Grange, and has asked us to allow a goodly portion of the evening camp fire programs to be devoted to grange interests.

We have promised to register a few cars from Pennsylvania, Maryland, New Jersey, New York, Connecticut and Massachusetts. Owners of cars in those states will join the tour at the nearest camp and will accompany us on the return to Niagara Falls, and some will come through Ontario to Detroit and attend the State Fair.

The tour route we have decided upon is by way of, and with camps at, Elyria, Ohio; Ashtabula, Ohio; Fredonia, New York; Olean, Empire, Liberty, New York, all single night camps. Next day drive to Newburgh on the Hudson and stop for noon lunch. That afternoon drive down the west shore around Strom King Mountain, West Point Military Academy, Bear Mountain Park, Haverstraw to Nyack. Cross the river on the ferry and camp at Tarrytown for three nights. This ar-

we have arranged to stop over two nights in this city. Next day drive to Boston and camp out for four nights. Spend one big day in a steamship ride over one hundred miles out into the Atlantic. One day to Plymouth Rock. The last day seeing the historical places in and around Boston.

Return by way of and camp at Greenfield, Massachusetts, reaching Saratoga Springs the next day and stop over two nights. Take the day for side trips to Lake George, Mt. McGregor, and to visit the mineral springs.

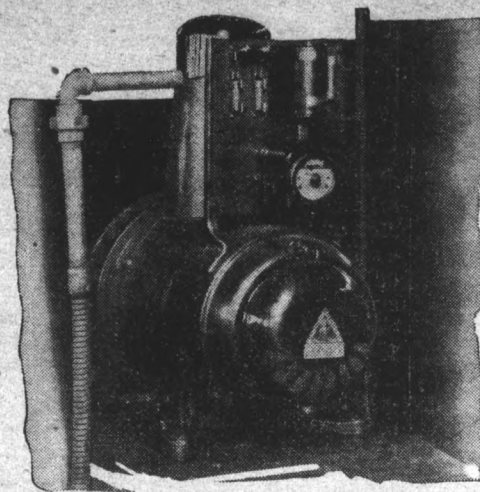
Next day drive to Syracuse, following day to Niagara Falls and stop over one day. Then on to London, Ontario, Port Huron and Detroit.

Those who wish to plan for taking the 1924 tour should send in their application and car registration fee of \$5.00 and make sure of having a place in the caravan. The electric light plant and official baggage cars will accompany the caravan the same as during the last five years. The tourists' heavy tents and bedding is carried free of charge on the baggage cars. Write the tour manager at Battle Creek.

LOOKING AHEAD.

ONTONAGON county is already thinking about the 1924 Michigan Apple Show, and the county agent, Mr. W. N. Clark, is making preparation for an even larger entry of local apples than that which took numerous prizes at Grand Rapids the past year. The list of winners at the 1923 show has been made public.

We wonder where they get all the space to build the "ground floors" of the various promotion schemes of which we hear.



46 Years of Service

On March 15, 1917, Delco-Light Plant 12652 was started on a life test. It has now been in operation, under full load, over 24,000 hours. Estimating 10 hours per week battery charging for average farm requirements, this Plant has given the equivalent of over forty-six years of average farm service.

During all this Time

This Plant has been overhauled but twice.

On only four occasions were minor repairs and adjustments made.

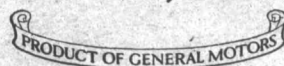
The total cost of labor and parts amounts to but \$82.36.

The average cost of maintenance, excluding fuel and oil, has been approximately \$1.80 per year.

The actual experience of this Plant, backed by the experience of over 225,000 users, has proved that the owner of a Delco-Light Plant has but little need for parts and service. Yet the purchaser of a Delco-Light Plant has at his command the services of the largest and most successful organization of its kind in the world. Modernize YOUR farm with electric light and power supplied by the Delco-Light Plant. See your local Delco-Light dealer.

Buy Delco-Light Now!

DELCO-LIGHT COMPANY
DAYTON, OHIO



M. L. Lasley, General Motors Bldg., Detroit, Mich.
Pringle-Mathews Co. 18 Fulton St., Grand Rapids, Mich.
E. H. Walker Co., 212 N. Erie St., Toledo, Ohio

DELCO-LIGHT

ONE OF THE
DELCO-LIGHT PRODUCTS
Electric Light Plants—Pumps—Washing
Machines and Frigidaire

DELCO-LIGHT COMPANY, Dayton, Ohio
Please send the Delco-Light catalog, new prices and details of easy payment plan.

Name.....
Street (or R. F. D.).....
Town.....
County.....
State.....
MF-3

F.S.R.

Fertilizer must be "cured"

Great bins of Royster Fertilizer "cure" or "age" for months so that your results from its use will swell the earnings from your land.

PERHAPS you didn't know that fertilizer should be "cured." Such "details" as this represent the difference between Royster's Fertilizer and less carefully prepared foods—and the difference between profitable crops and crops that are not so profitable.

To keep vast quantities of fertilizer for months represents an enormous supply and a tremendous capital. Therefore, only a large company like Royster's can offer this more effective "cured" fertilizer.

Rid yourself of the idea that all fertilizer is alike. This is no more true than that all land is alike. The truth of this can be proven—not alone by the enthusiastic praise of successful farmers who have used Royster's, but by your own experience.

Grow better and larger crops by using fertilizer that has been "cured"—that is free from lumps—that has been proven chemically correct—and that has established a record for good works over a long period of years. Look for the name "ROYSTER" on the bags.

F. S. ROYSTER GUANO CO.
Toledo, Ohio

ROYSTER

Field Tested Fertilizers

TRY a Michigan Farmer Classified Liner—They cost little and bring big results. See rates on page 171.

FINANCIAL STATEMENT as of December 31, 1923

Cash in Banks and Office.....	\$309,271.06
Municipal Bonds	28,947.45
Building and Real Estate	27,727.44
Furniture and Equipment	12,000.00
Salvage	9,350.00
Accounts Receivable	6,662.25
Accrued Interest	3,725.35

Total Assets

Total Assets, December 31, 1921.....	\$137,392.51
Total Assets, December 31, 1922.....	226,499.45
Total Assets, December 31, 1923.....	407,683.55

During the year 1923 the assets of the company increased \$181,184.10.

The total claims paid for the year 1923 amounted to \$402,422.11. The total claims paid since organization amount to \$1,664,120.10.

The company made a state-wide record for the year 1923, writing and renewing 46,050 policies. With a state-wide organization to write insurance and adjust claims the company is prepared to continue to give efficient service for 1924. No automobile owner should drive a day without insurance. Select a well established company that is prepared to stand the test of the serious claims and that has had experience in handling the complicated automobile claims.

Ask any sales agency and they will name you the agent for this company. The rate is very reasonable and you can obtain any kind of policy that you may desire to meet your needs. Insure today; tomorrow may be too late. Write

Citizens' Mutual Automobile Insurance Company
Howell, Michigan

Sugar Beet Institute

Sessions Were Popular and Attendance Large

CUTTING cost of producing good sugar beets was the main issue running through the excellent program put on by the M. A. C. and the Federal Department of Agriculture at East Lansing last week for sugar beet growers and factory field men.

There was an unexpectedly large attendance and the sessions showed a wonderfully fine spirit of cooperation between college and federal workers, and the beet interests of the state.

Beets have, according to the best information obtainable, given the highest acreage returns of any other Michigan farm crop this past year, and the manufactured products are used in such volume that the American people are required to import one-quarter of their supplies. These two reasons, in the opinion of Professor Cox, of the farm crops department of the college, should make this a crop, the acreage of which should be expanded in this state to, at least, twice its present magnitude; and, to this end, we should not permit a small group of ill-starred men to keep our agriculture from benefiting thereby.

Adam Krauss, of Bay county, presented figures showing the result of drilling beets different distances apart. The tests were made by planting one acre each eighteen, twenty, twenty-two and twenty-four inches apart upon the same type of ground, with the same preparation, fertilization, seed and cultivation. One-half of each acre was harvested before a rain, and the other half after. The crop from each acre was carefully computed, both as to weight and the character of the beet for sugar production.

Here are the results: The acre planted eighteen inches apart produced nine tons and 368 pounds. The

beets tested 18.5 per cent and had a purity coefficient of 87.3.

On the acre where the rows were twenty inches apart, the production was ten tons and 836 pounds, the test 18.8 and the purity coefficient 89.

The twenty-two-inch rows gave a crop weighing eleven tons and 330 pounds, a test of 19.3 and a purity coefficient of 89.1.

Where the rows were twenty-four inches apart the acre produced ten tons and 1,097 pounds, the test was 18.7 and the purity co-efficient 88.7.

Mr. Krauss also gave figures on the cost per acre for growing a forty-acre field. The items took into consideration all the direct expenses of preparing the land, cost of seed and fertilizer, cultivation, harvesting, hauling, interest on investment, managerial work, etc. The books at the end of the season showed that each acre of this forty acres cost just \$65.83.

In storing beets it was shown that circular flat-topped piles lose less in weight and sugar content than do long ricks. Experiments also show that where the beets are improperly topped the respiration is greater and, consequently, the loss of sugar is higher than with beets having all the green part removed.

If the average beet tonnage of eight tons per acre for the state was raised to ten tons, the production of the crop would be placed upon a far more favorable economic basis.

Seventy-five per cent of the beet crop of the state is grown in the ten counties where the largest investment has been made in drainage. Adequate tile drainage, according to the estimate of growers will increase the tonnage on the average beet land from two to three tons per acre.

Air Your Potatoes

Successful Storage Depends Much Upon Good Ventilation

By Benj. V. Halstead

THOUSANDS of bushels of potatoes are lost to Michigan farmers every year, due to two diseases which occur frequently and are preventable with proper precautions, according to J. E. Kotila, research botanist on the staff of the Michigan Agricultural College Experiment Station.

These diseases are chilling injury, or "field frost," as it is sometimes called, and breakdown. The first of these two diseases is caused by slight chilling of the potatoes after they are dug from the ground or are in storage or transit. Potatoes subjected for periods as small as three or four hours, according to Mr. Kotila, at temperatures near the freezing point of water, thirty-two degrees, are affected. Often the tubers are normal to all external appearances, but when cut open show brown or grayish-black areas in the flesh of the stem end, about an eighth of an inch beneath the skin, the flesh being somewhat withered at these places. Others show a blackening in the interior part of the flesh, which may extend for a considerable distance into the tuber from the stem end. When cooked, such tubers, instead of being white and mealy, are blackened and soggy, much to the chagrin of the housewife.

Breakdown of potatoes may be of two types—the one a superficial dying of areas of the skin, and the second a deep internal discoloration of the flesh. The surface breakdown of potato tubers is an injury which makes its appearance after the tubers have been placed in storage. The first symptoms are observed by the grower three or four months after the date the potatoes were stored, when some tubers in the bins show on their surfaces

slightly sunken, round or irregularly-shaped spots varying in size from one-sixteenth to three-fourths of an inch in diameter. The borders of the spots have a bulish or gun-metal hue. Upon cutting these sunken spots with a knife, it is found that they are only skin, no rotting has progressed into brown layer of deadcells beneath the skin, no rotting has progressed into the tuber. This surface breakdown is the so-called "Buttonrot" of the trade, but it is not a true rot of the tuber.

"The pitting of the tubers becomes more pronounced as the season advances, and with the coming of warm weather in the spring the most severe symptoms of breakdown are seen. Many tubers are found to be soft and mushy, and others, when cut open, show black centers, a condition known as "blackheart." Blackheart often occurs in refrigerator car shipments or in shipments where stoves cause overheating of the tubers. It is common with pitted potatoes when the spring weather is excessively warm.

"The enormous loss caused by breakdown each year can be prevented by giving more attention to ventilation in the construction of new potato storage houses or by remedying the defects of those already constructed. The following recommendations are made:

1. Provide each potato cellar or storage house with inlets for fresh air and outlets for foul air.
2. Provide false floors and walls for the bins.
3. Provide air spaces between bins.
4. Never store potatoes in piles more than five feet deep without making some provision for air to get to the center of the pile."

Government Marketing

Administration Bill Now Before Congress Provides for Marketing Our Surplus Products Abroad

THE government marketing corporation proposition advocated by Secretary of Agriculture Wallace, is now before congress in the form of a bill introduced by Senator Charles L. McNary, of Oregon. It provides for the marketing of our surplus wheat and other farm products abroad through government agencies, with the home market effectively protected by a tariff.

Two organizations are created under the bill, the agricultural export commission and the agricultural export corporation. The commission is a supervisory body representing the producers and consumers. It will consist of eight members, the secretary of agriculture, commerce and treasury, chairman of the federal tariff commission, and four members to be known as commissioners. The appointment of commissioners will be by the President with the consent of the senate. The administrative commissioner and managing director of the export corporation will be nominated by the secretary of agriculture.

The agricultural export corporation will be the business agency composed of five members, the secretaries of agriculture and commerce, and three directors, managing director and one other to be nominated by the secretary of agriculture and one by the secretary of commerce, but appointed by the President. Each director will receive \$10,000 a year salary, and the life of the corporation is limited to ten years. It is capitalized at \$200,000,000 to be advanced from the federal treasury, as needed, but returned.

The corporation is given authority to buy and sell here and abroad, and to enter into all necessary business relations. The corporation and tariff board are given authority to recommend to the President, and he may declare an increase in duty, or even an embargo, on the commodities effected by the bill in order to maintain a relative price level equal to, but not higher than the ten-year average price per unit which prevailed during the pre-war period of 1905-1914 inclusive. In an emergency the President, upon recommendation, may direct the corporation to segregate the exportable surplus.

To cover the loss sustained in buying wheat on the protected higher domestic market and selling it on the lower world market, the corporation is empowered to issue scrip stamps which will be purchased by all who buy the commodities of the farmers and which will be paid them as representing their face value.

The corporation is authorized to redeem these stamps at the end of the year when it has been determined how much their intrinsic value is, which is based upon what has been the relation between the total crop, that exported, the domestic price and the

world price. The commission will determine in cooperation with the department of agriculture, the exportable surplus, and this will govern the total purchased by the corporation in any one year.

It is intended to make purchases on a monthly basis and at a price which will give the community a price in line with the monthly average during a corresponding monthly period for the 1905-1914 period. Should the domestic price fail to respond to within ten per cent above or below the desired level the corporation may buy future monthly quotas or sell in the domestic market.

This bill has the support of the American Wheat Growers' Association, Incorporated, and the department of agriculture, and assurances are given that it will have the backing of the American Farm Bureau Federation. The federation is querying the state farm bureaus as to their position upon the Wallace-McNary bill.

WOULD CONTROL TRANSPORTATION.

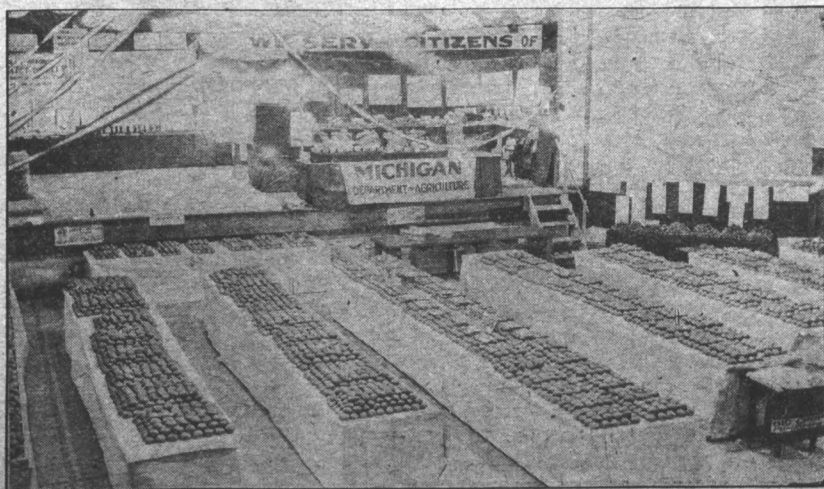
A GIGANTIC scheme for federal control of transportation is contained in a bill by Senator Norris, of Nebraska. This bill provides for the creation of a government corporation empowered to operate railroads and ships, buy up coal properties, and construct power plants. The corporation would be known as the Federal Transportation Company. It would have authority to construct or purchase railroads connecting Atlantic and Pacific ports, the Great Lakes and Gulf of Mexico by a network of lines sufficient to give it control of rates.

Control of the corporation would be vested in a board of five directors at a salary of \$20,000 each per year, who would be removable by concurrent resolution of congress.

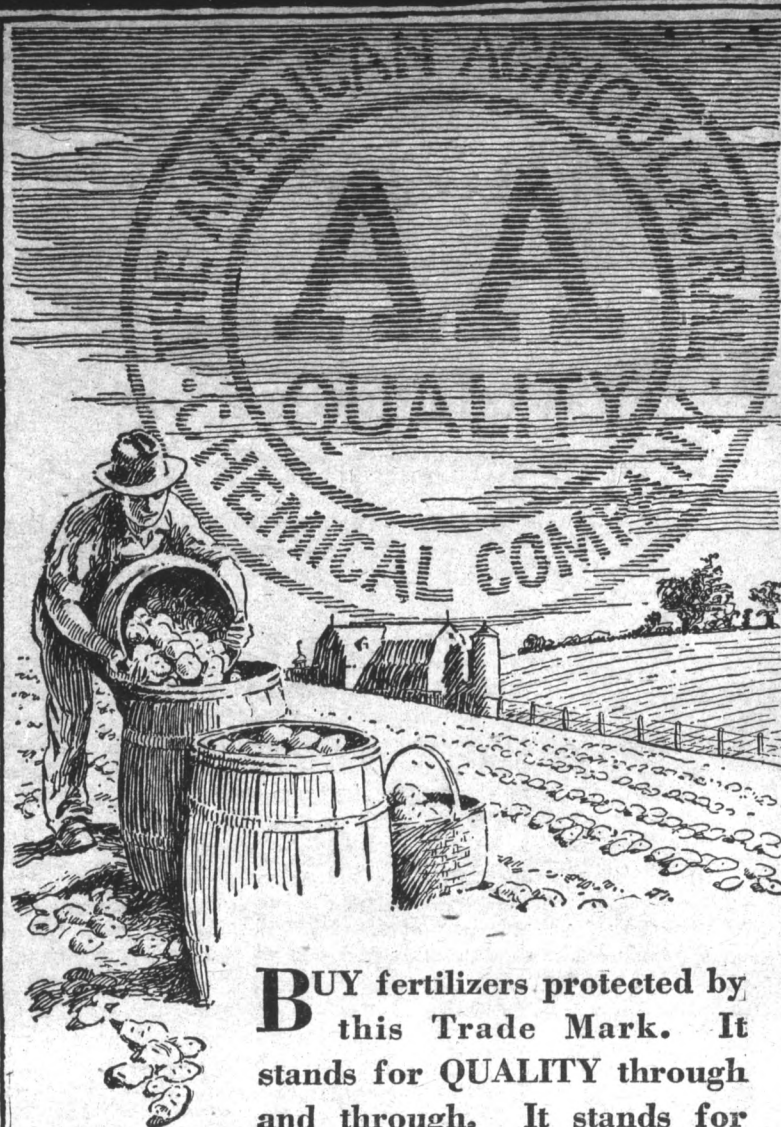
Cost of developing the system is to be met by issues of bonds by the secretary of the treasury not to exceed \$5,000,000,000, at an interest rate not exceeding four and one-half per cent.

GRAPE SHIPMENTS LESS THAN LAST YEAR.

REPORTS made public show that the shipment by the Southern Michigan Grape Association the past fall was 681 cars of grapes, which brought the growers \$418,564. This was a big falling off from last year when the association sold 1,194 cars which brought \$818,963. The association during the past year did business amounting to \$100,000 in the handling of supplies for the 500 members. The board of directors have named as officers for the coming year, George Dunham, president; H. L. Sutton, vice-president, and O. B. Wheeler, secretary-treasurer.—E. V. Root.



Michigan Spuds in Their Best Duds.



BUY fertilizers protected by this Trade Mark. It stands for **QUALITY** through and through. It stands for uniformity and dependability; for economy; for the best assurance for profitable crops. "AA QUALITY" stands for the widest experience in fertilizer manufacturing; for generations of square dealing. It is like the Sterling mark on silver.



THE AMERICAN AGRICULTURAL CHEMICAL CO.

Offices in 22 principal cities

"Worth more per dollar because they produce more per acre"



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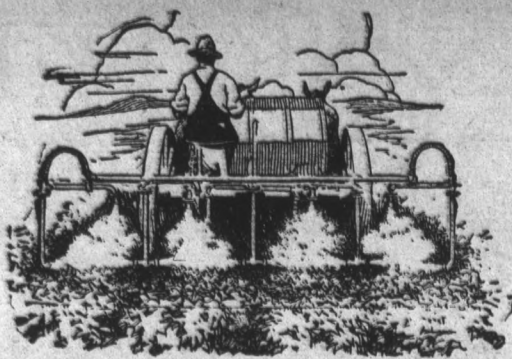
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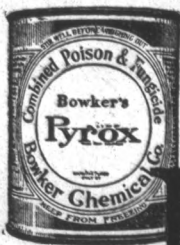
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Kills bugs—controls diseases—stimulates growth

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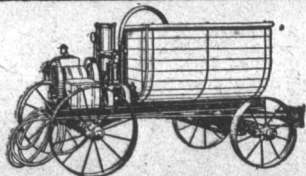
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TO prevent rabbits from chewing trees, rub the bodies of the trees, as high as necessary, with smoked pork rind. This is an old German remedy which is much more valuable at present than the German mark.—H. J. Drier.

ORDERLY EXPORTING OF APPLES ADVISED.

EIGHTY-FOUR per cent of the apples reaching the English markets are sold through auction houses, according to E. A. Foley, United States agricultural Commissioner at London, who is now in Washington. The chief distributing markets are London, Liverpool, Southampton and Glasgow.

There is no organized effort to discriminate against American apples in England, says Mr. Foley. The chief trouble comes from glutting the markets. He thinks that if American shippers sent a third less apples in an even flow they would get as much money as they now receive by the present fluctuating shipments.

The northwestern box apples are preferred by most dealers, because they are less liable to get "stuck" than when buying fruit in barrels. The eastern fruit belt is not up to the northwestern in packing and grading, and enough poor stuff reaches the market to make the English buyers suspicious of all eastern fruit. But the chief hindrance to developing a large British trade is the fluctuations of shipments.

The English consumers prefer a small hard apple that will give them the most for their money. The best apple grown in England is the Cox pippin, which is a small hard apple and sets the public standard for all apples. Among eastern varieties, the Baldwins and Kings are popular, but the tendency is to regard apples as apples, regardless of variety.

Mr. Foley thinks the great need of American apple shippers is a marketing system which will enable them to market their apples in an even flow during the season when American apples are in demand in the British markets. With proper distribution and a better understanding of the tastes and requirements of the British consuming public the sale of American apples in England could undoubtedly be increased to a considerable extent.

SNOW TOO DRY FOR LUMBERING.

AN Ishpeming report states that logging operations in that district are hampered by the dryness of the snow, which was very late in coming, which prevents its packing well. Labor is plentiful but heavy draught-horses are scarce. There are said to be thirty to fifty small jobbers between Ishpeming and Michigamme, getting out pulpwood and mine-timber as well as sawtimber, some of whom are supplying the mills at Iron Mountain and L'Anse.

WHEAT ACREAGE NEARLY NORMAL.

THE last crop report of the State Department of Agriculture shows that winter wheat in the Upper Peninsula has an acreage which is ninety-eight per cent of last year's crop and a condition of ninety-two per cent. Taking the acreage per cent for the counties for which reports are given, we have the following: Chippewa, 92; Delta, 99; Houghton, 92; Iron, 109; Luce, 104; Mackinac, 99; Menominee, 82; Ontonagon, 129; Schoolcraft, 99. The condition percentages are as follows: Chippewa, 105; Delta, 100; Houghton, 88; Iron, 85; Luce, 100; Mackinac, 100; Menominee, 87; Ontonagon, 87; Schoolcraft, 100. The acreage of rye for the peninsula is 88 per cent of last year's crop, and the condition is 96 per cent.

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Burpee's Annual

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For 1924 we are offering some of the finest new varieties that have been introduced in recent years. Amongst the Burpee Novelties is our wonderful New Sweet Pea, The President Harding, which was named by special permission of the late President of the United States.

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WORLD EVENTS IN PICTURES



When Otto Ruff, of Venice, Calif., went after a few fish for dinner, he brought home 1,154 pounds.



The postman is delivering a few hundred more ballots to the already stacked desks of the girls who are counting the ballots of the "Bok Peace Plan."



Half of this peace arch at Blaine, Washington, rests on American, and half on Canadian soil.



Here is the U. S. hockey team all lined up for the Olympic games: They are just ready to leave for Chamanoix in the French Alps, where these famous games are to be held.



Major Frederick L. Martin, U. S. A., is now in training with his army pilots in preparation for the around-the-world flight with four Douglas cruiser planes.



"The dangers of the opium traffic" is the subject discussed in lectures by Mrs. Helen Moorhead in various cities.



Seifoullah Yousry Pasha is the first minister from the new government of Egypt to U. S.



Frau Adele Schreiber, member of the Reichstag, was given the privilege of the senate floor at Washington.



Mrs. Morris Goodchild, England's best markswoman, won high honors at the British Women's rifle championship meet. She has also beaten most of the men of the rifle clubs.



"Old Mage," the wise leader of Lydia Hutchinson's famous dog team, died, but Miss Hutchinson has been asked to drive a Montreal team in American Dog Derby at Ashton, Idaho.

I'm going back to Boston tonight. I'm going to find out about this. I can get a machine at Tabernacle to take me over the range; it may save me time in catching a train at Denver. There's some fraud, Ba'tiste. I know it—and I'll prove it if I can get back to Boston. We'll stop by the cottage down here and see Miss Jierdon; then I'm gone!"

"She no there. She, what-you-say, smash up 'quaintance with Medaine. She ask to go there and stay day or two."

"Then she'll straighten things out, Ba'tiste. I'm glad of it. She knows the truth about this whole thing—every step of the way. Will you tell her?"

"Oui. Ba'teese tell her—about the flume and M'sieu Thayer, what he say. But Ba'teese—"

"What?"

The trapper was silent a moment. At last:

"You like her, eh?"

"Medaine?"

"No—the other."

"A great deal, Ba'teese. She has meant everything to me; she was my one friend when I was in trouble. She even went on the stand and testified for me. What were you going to say?"

"Nothing," came the enigmatical reply. "Ba'teese will wait here. You go Boston tonight?"

"Yes."

And that night, in the moonlight, behind the rushing engine of a motor car, Barry Houston once more rode the heights where Mount Taluchen frowned down from its snowy pinacles, where the road was narrow and the turns sharp, and where the world beneath was built upon a scale of miniature. But this time, the drifts had faded from beside the highway; nodding flowers showed in the moonlight; the snow flurries were gone. Soon the downward grade had come and after that the straggling little town of Dominion. Early morning found Houston in Denver, searching the train schedules. That night he was far from the mountains, hurrying half across the continent in search of the thing that would give him back his birthright.

Weazened, wrinkle-faced little Jenkins met him at the office, to stare in apparent surprise, then to rush forward with well-simulated enthusiasm.

"You're back, Mr. Houston! I'm so glad. I didn't know whether to send the notice out to you in Colorado, or wire you. It just came yesterday."

"The notice? Of what?"

"The M. P. & S. L. call for bids. You've heard about it."

But Houston shook his head. Jenkins stared.

"I thought you had. The Mountain, Plains and Salt Lake Railroad. I thought you knew all about it."

"The one that's tunneling Carrow Peak? I've heard about the road, but I didn't know they were ready for bids for the western side of the mountain yet. Where's the notice?"

"Right on your desk, sir."

Abstractedly, Houston picked it up and glanced at the specifications—for railroad ties by the million, for lumber, lathes, station-house material, bridge timbers, and the thousands of

other lumber items that go into the making of a road. Hastily he scanned the printed lines, only at last to place it despondently in a pocket.

"Millions of dollars," he murmured. "Millions—for somebody!"

AND Houston could not help feeling that it was for the one man he hated, Fred Thayer. The specifications called for freight on board at the spurs at Tabernacle, evidently soon to have competition in the way of railroad lines. And Tabernacle meant just one thing, the output of a mill which could afford to put that lumber at the given

"Only one, sir."

"One? What!"

"The one you signed, sir, to Thayer and Blackburn, just a week or so before you started out west. Don't you remember, sir; you signed it, together with a lease for the flume site and lake?"

"I signed nothing of the sort!"

"But you did, sir. I attested it. I'll show it to you in just a moment, sir. I have the copy right here."

A minute later, Barry Houston was staring down at the printed lines of a copy of the contract and lease which had been shown him, days before, out

was certain. Surely he had seen neither of them; and the signing must have been through some sort of trickery of which he was unaware. But would such a statement hold in court? Houston learned, a half-hour later, that it wouldn't, as he faced the family attorney, in his big, bleak, old-fashioned office.

"It's all right, Barry, for you to tell me that you didn't sign it," came the edict. "I'd believe you—because I feel sure that you wouldn't lie to me. But it would be pretty thin stuff to tell to a jury. There is the contract and the lease in black and white. Both bear your signature which, you have declared in the presence of witnesses, to be genuine. Even when a man signs a paper while insane, it's a hard job to pull it back; and we certainly wouldn't have any witnesses who could swear that you had lost your reason."

"Nope," he concluded, giving the papers a flip, as though disposing of the whole matter, "somebody has just worked the old sewing-machine racket on you—with trimmings. This is an adaptation of a game that is as old as the hills—the one where the solicitors would go up to a farmhouse, sell a man a sewing-machine or a cream separator at a ridiculous figure, let him sign what he thought was a contract to pay a certain amount a month for twelve months—and then take the promissory note which he really had signed down to the bank and discount it. Instead of a promissory note, they made this a contract and a lease. And just to make it good, they had their confederate, a legalized notary public put his seal upon it as a witness. You can't remember when all this happened?"

"According to Jenkins—who put the notary seal on there—the whole thing was put over about a week or so before I left for the west. That's the date on them too. About that time, I remember, I had a good many papers to sign. A lot of legal stuff, if you'll remember, came up about father's estate, in which my signature was more of a form than anything else. I naturally suspected nothing, and in one or two instances signed without reading."

"And signed away your birthright—to this contract and lease. You did it with no intention of giving your land and flume and flume site away, that's true. If one of the men would be willing to confess to a conspiracy, it would hold water in court. Otherwise not. You've been bunked, and your signature is as legal and as binding as though you had read that contract and lease-form a hundred times over. So I don't see anything to do but to swallow your medicine with as little of a wry face as possible."

The White Desert

By Courtney Ryley Cooper

WINTER SCENE

By William Leonhardt

Old Winter with his visage grim,
From out the wood-land shoo'd the wren

And touched each thorny twig and limb

With frosty beauty;
To nature's own artistic hand
We owe the duty.

How beautiful, the winter morn,
The fields so brown and deftly shorn.

The frosty touch, without the storm
So wildly driven,
Has hung the shrubs and timbers low
With scenes of heaven.

The leafless trees, in borrowed sheen,
The towering branch's stately mein,
Wove beauty on the rapturous scene
Of nature's law;
As if the gods had waft their breath
In reverent awe.

Dim in the distance banked the trees,
With frosty incrusted leaves;
'Twas nature's etching, frilled the leaves
With elfin neatness
That wove the wild enchanting spell
With all its sweetness.

Deep in the heavier shades there grew
The sturdier trunks embolden view;
And higher where the branches blew
In downy lightness,
Against the dull and leaden sky
Stood out in whiteness.

Oh beauty where the gods have smiled
On scenes enchantingly beguiled
How oft I've lingered in the wild
In meditation,
And saw the wondrous works of God
Admidst creation.

point cheaper than any other. The nearest other camp was either a hundred miles away, on the western side, or so far removed over the range in the matter of altitude that the freight rates would be prohibitive to a cheaper bid. Thayer, with his ill-gotten flume, with his lake, with his right to denude Barry Houston's forests at an insignificant cost, could outbid the others. He would land the contract, unless—

"Jenkins!" Houston's voice was sharp, insistent. The weazened man entered, rubbing his hands.

"Yes, sir. Right here, sir."

"What contracts have we in the files?"

"Several, sir. One for mining timber stulls, logs, and that sort of thing, for the Machol Mine at Idaho Springs; one for the Tramway company in Denver for two thousand ties to be delivered in June; one for—"

"I don't mean that sort. Are there any stumpage contracts?"

in the mountains of Colorado. Blankly he looked toward the servile Jenkins, awaiting the return of the documents, then toward the papers again.

"And I signed these, did I?"

"You certainly did, sir. It was about five o'clock in the afternoon. I remember it perfectly."

"You're lying!"

"I don't lie, sir. I attested the signature and saw you read both contracts. Pardon, sir, but if any one's lying, sir—it's yourself!"

CHAPTER XIII.

TEN minutes after that Barry Houston was alone in his office. Jenkins was gone, discharged; and Houston felt a sort of relief in the knowledge that he had departed. The last of the Thayer clan, he believed, had been cleaned out of his organization—and it was like lightening a burden to realize it.

That the lease and stumpage contract were fraudulent, Barry Houston

IT was with this ultimatum that Houston turned again for the west, glad to be out of Boston, glad to be headed back once more for the mountains, in spite of the fact that the shadows of his life had followed him even there, that the ill luck which seemed to have been perched continuously on his shoulders for the past two years still hovered, like a vulture, above him. What he was going to do,

AL ACRES—Al and Slim Will be Jonny-on-the-Spot at Stockholder's Meetings.

By Frank R. Leet



how he could hope to combat the obstacles which had arisen was more than he could tell. He had gone into the west, believing, at worst, that he would be forced to become the general factotum of his own business. Now he found that there was not even a business; his very foundations had been swept from beneath him, leaving only the determination, the grim, earnest resolution to succeed where all was failure and to fight to victory—but how?

Personally, he could not answer the question, and he longed for the sight of the shambling little station at Tabernacle, with Ba'tiste, in answer to the telegram he had sent from Chicago, awaiting him with the buggy from camp. And Ba'tiste was there, to boom at him, to call Golemar's attention to the fact that a visit to a physician in Boston had relieved the bandaged arm of all except the slightest form of a splint, and to literally lift Houston into the buggy, tossing his baggage in after him, then plump in beside him with excited happiness.

"Bon!" he rumbled. "It is good you are back. Ba'teese, he was lonely. Ba'teese, he was so excited when he hear you come. He have good news!"

"About what?"

"The railroad. They are near through with the tunnel. Now they shall start upon the main road to Salt Lake. And they shall need timbers—beaucoup! Ties and beams and materials! They have ask for bids. Ah, out. Eet is, what-you-say, the swollen chance! M'sieu Houston shall bid lower than—"

"How, Ba'tiste?" Houston asked the question with a dullness that caused the aged trapper to turn almost angrily upon him.

"How? Is eet putty that you are made of? Is eet—but no, Ba'teese, he-what-you-say, misplace his head. You think there is no chance, eh? Mebbe not. Mebbe—"

"I found a copy of that contract in our files. The clerk I had in the office was in the conspiracy. I fired him and closed everything up there; as far as a Boston end to the business is concerned, there is none. But the damage is done. My lawyer says that there is not a chance to fight this thing in court."

"Ah, oui. I expect that much. But Ba'teese he think, mebbe, of another way. Eh, Golemar?" He shouted to the dog, trotting, as usual, beside the buggy. "Mebbe we have a, what-you say, punch of luck."

Then, silent, he leaned over the reins. Houston too was quiet, striving in vain to find a way out of the difficulties that beset him. At the end of half an hour he looked up in surprise. They no longer were on the way to the mill. The road had become rougher, hillier, and Houston recognized the stream and the aspen groves which fringed the highway leading to Ba'tiste's cabin. But the buggy skirted the cabin, at last to bring into sight a snug, well-built, pretty little cottage which Houston knew, instinctively, to be the home of Medaine Robinette. At the veranda, Ba'tiste pulled on the reins and alighted.

"Come," he ordered quietly.

"But—"

"She have land, and she have a part of the lake and a flume site."

Houston hung back.

"Isn't it a bad bet, Ba'tiste? Have you talked to her?"

"No—I have not seen her since that day—at the flume. She is here—Lost Wing is at the back of the cabin. We will talk to her, you and I."

"Very well." But Houston said it against his will. He felt, in the first place, that he would be presuming to ask it of her—himself a stranger against whom had come the accusation of murder, hardly denied. Yet, withal, in a way, he welcomed the chance to see her and to seek to explain to her the deadly thrusts which

Fred Thayer had sent against him. Then too a sudden hope came: Ba'tiste had said that Agnes Jierdon had become friendly with her; certainly she had told the truth and righted the wrongs of a malicious treachery. He joined Ba'tiste with a bound. A moment more and the door had opened, to reveal Medaine, repressed excitement in her eyes, her features a trifle pale, her hand trembling slightly as she extended it to Ba'tiste. Houston she received with a bow, forced, he thought. They went within, and Ba'tiste pulled his queer little cap from his head, to crush it in the grasp of his massive hands.

"We have come for business, Medaine," he announced with a slight show of embarrassment. "M'sieu Houston, he have need for a flume site."

"But I don't see where I could be of any assistance. I have no right—"

"Ah! But eet is not for the moment present. Eet is for the spring-time."

SHE seemed to hesitate then and Houston took a sudden resolve. It might as well be now as later.

"Miss Robinette," he began, coming forward, "I realize that all this needs some explanation. Especially," and he halted, "about myself."

"But is that any of my affair?" Her old pertness was gone. She seemed white and frightened, as thought about to listen to something she would rather not hear. Houston answered her as best he could:

"That depends upon yourself, Miss Robinette. Naturally, you wouldn't want to have any business dealings with a man who really was all that you must believe me to be. It isn't a pleasant thing for me to talk about—I would like to forget it. But in this case, it has been brought up against my will. You were present a week ago when Thayer accused me of murder."

"Yes."

"Eet was a big lie!"

"Wait just a minute, Ba'tiste." Cold sweat had made its appearance on Barry Houston's forehead. "I—I am forced to admit that a part of what he said was true. When I first met Ba'tiste here, I told him there was a shadow in my life that I did not like to take about. He was good enough to say that he didn't want to hear it. I felt that out here, perhaps I would not be harassed by certain memories that have been rather hard for me to bear in the last couple of years. I was wrong. The thing has come up again, in worse form than ever and without giving me a chance to make a denial. But perhaps you know the whole story?"

"Your story?" Medaine Robinette looked at him queerly. "No—I never have heard it."

"Then you've heard—"

"Only accusations."

"Is it fair to believe only one side of a thing?"

"Please, Mr. Houston," and she looked at him with a certain note of pleading—"you must remember that I—well, I didn't feel that it was any of my business. I didn't know that circumstances would throw you at all in my path."

"But they have, Miss Robinette. The land on my side of the creek has been taken from me by fraud. It is absolutely vital that I use every resource to try to make my mill what it should be. It still is impossible for me to obtain lumber, but to get it to the mill necessitates a flume and rights in the lake. I've lost that. We've been hoping, Ba'tiste and myself, that we would be able to induce you to lease us your portion of the lake and a flume site. Otherwise, I'm afraid there isn't much hope."

"As I said, that doesn't become my property until late spring, nearly summer, in fact."

"That is time enough. We are hop-

(Continued on page 155).

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At Mount Sinai

Our Weekly Sermon—By N. A. McCune

THE Old Testament is the book for farmers. Its background and setting is almost wholly rural. In Leviticus XIX something like thirty laws are enumerated, nine or ten of them appertaining to country life. The 26th of Deuteronomy is the chapter of curses and blessings, a chapter which it would profit this generation to read with frequency. Most of these delightful blessings and most of the curses are couched in terms of live stock, trees, soils and crops. "Jehovah will make thee plenteous for good, in the fruit of thy body, and in the fruit of thy cattle, and in the fruit of thy ground, in the land which Jehovah swore unto thy fathers to give thee."



Jehovah will open unto thee his good treasure the heavens, to give the rain of thy land in its season, and to bless all the work of thy hand: and thou shalt lend unto many nations, and thou shalt not borrow." Over against this is the curse: "Jehovah will smite thee with consumption, and with fever, and with inflammation, and with fiery heat, and with the sword, and with blasting and with mildew; and they shall pursue thee till thou perish."

The emigrants who were painfully moving Canaan-ward were now in the pioneer stage. They were the forty-niners of the Bible. Warren H. Wilson's words concerning pioneers in America are perfectly applicable to the Israelites: "Their communities were pioneer communities; their religious habits were suitable to frontier experience. Modern men would find much to condemn in their ways; and they would find our typical reactions surprising, even wicked. But each conforms to type, and obeys economic necessity."

THOU shalt have no other gods before me." The average Bible reader will think that this was a most wholesome injunction for that day, but that it is not required now. However, it can be asserted that such a commandment was never more needed than at the present time. We Americans violate it consistently and continuously. We bow before the God of Success, we worship at the shrine of men who have made their pile, we rural folk hasten to move to town where we too can join with these devout worshippers. Idolatry no longer is kneeling before an image of silver and gold, but is far more subtle and dangerous. It is valuing things more highly than we value God. It is putting success before duty. Worse than that, it is using religion as a means of attaining success. Christ phrased the first commandment in a new way: "Seek ye first the kingdom, and all these things shall be added unto you." The modern revised version is, "Seek ye first the kingdom of things, and all righteousness shall be added unto you." But it does not work. In regions where the soil is rich, farmers often accumulate a fair competence, whereupon they move to town, while a tenant takes the farm. Some one has worshiped the wrong god; not the farmer alone, but the church, the schoolmaster, the rural merchant. If they had put first values first, if they had thought of God as friend and counselor, a society might have been built up good enough and attractive enough for any one to live in, and the town-hastening farmer would have been as uncommon as robins in January.

Associated with the first commandment are others which sound strange to modern ears. "The land is mine," said Jehovah. That appears odd, and is not. William Smith owns the quarter

section today, sells tomorrow to John James, Jr. John James, Jr., dies, and his widow disposes of the place to Thomas Thoman, and Thomas sells to a fellow from the city, who thinks he is going to show the rustics how to farm it. The generations come and go. The owner of forty years ago is forgotten. Somehow the feeling grows that the only constant and unchanging owner is the Almighty. He never signs a deed or pays interest. "The land is mine," and if that fact had been recognized, and the soil reverently cultivated and fertilized as a loan from God, many dreary chapters in agriculture would never have been written. Liberty H. Bailey wrote a book happily named, "The Holy Earth." The earth is holy. From it is derived life itself.

IF one is looking for genuine neighborliness here it is: "And when ye reap the harvest of your land, thou shalt not wholly reap the corners of thy field, neither shalt thou gather the gleanings of thy harvest; thou shalt leave them for the poor, and for the sojourner." The book of Ruth is based on this beautiful, ancient custom. Ruth went out to glean the ungathered corners. Like other laws, this can be better obeyed in the spirit than in the strictness of the letter. Ungathered corners with a modern self-binder would be few. But there are spiritual ungathered corners, in every life. The other day I sat with a group of business men and heard them discussing how to get Arthur Nash, of Cincinnati, to come and speak in the city. Nash is working out the golden rule in his factory, with astonishing results, and his employees rise up to call him blessed. The golden rule is the ungathered corners in New Testament dress. Likewise I sat in a hotel lobby on New Year's Day, 1924, and overheard several conversations on how New Year's eve was celebrated. "Yes, they carried some of 'em up stairs about three this morning." "Well, I come through the celebrations a little soberer than usual, this year." "Yes, you could have gone to such a place and seen them pouring liquor down women's throats, and down their necks and their sleeves." These folk, though belonging to the same race as those who wrote Leviticus, were as far from the spirit of the ungathered corners as Jerusalem is from New York.

THE Hebrews invented one way of showing good will to the poor and unfortunate. It was based on the kind of life which the people then lived. Apparently it worked. We must be as inventive in good in our day as they were in theirs—and ours is much the harder task. Life is complicated and involved to a degree that would have bewildered or crazed the man of Moses' day, and yet we must find a way out. If Christianity has the vitality which we attribute to it, no difficulty is too impossible. The poor are as numerous now as then, and with less excuse. "Poverty even in the United States," says Professor Ellwood, "is not only widespread and bitter, but for many it is practically hopeless, and hence, degrading."

Christ boils down the laws of Moses into loving God with heart, mind and strength, and one's neighbor as oneself. St. Paul condenses it still further and says, "Love is the fulfilling of the law."

SUNDAY SCHOOL LESSON FOR FEBRUARY 3.

SUBJECT:—What Israel learned at Sinai. Ex. 19:1 to 24:8, and Lev. 19. GOLDEN TEXT:—Thou shalt love the Lord thy God with all thy heart, and with all thy soul, and with all thy might, Deut. 6:5. Thou shalt love thy neighbor as thyself. Lev. 9:8.

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Doings In Woodland

Truthful Bobby Rabbit

DO tell us a story, Uncle Rolly," begged little Jennie and Jackie Rabbit, as the climbed upon Rolly Rabbit's knee.

Little Jackie and Jennie always had to have a story every time they came over to visit Uncle Rolly.

"All right, children, but after the story, you must be off for home or your mother will be scolding me for keeping you so late," said Uncle Rolly.

"Let's see! I guess I'll have to tell the story of little Bobby Rabbit. Once upon a time," for that was the way he started all his stories, "Grandpa Rabbit planted a garden. Above all the good things this garden contained, he prized the row of young cabbage plants the most. Very carefully he hoed them every day.

"At Grandpa Rabbit's house there



"Did You Do It?"

lived four little rabbits, Frankie, Sammie, Sally, and little Bobbie."

"Was Bobbie littler than I am?" asked Jackie Rabbit.

"No, he was just about your size, Jackie," answered Uncle Rolly. "And one bright sunny day, he went out to roll his hoop all alone. He rolled it and rolled it without letting it fall until it rolled right into Grandpa Rabbit's garden beside his row of prize cabbages.

"How nice and crisp they look," he thought. He sniffed, 'My! How good they smell.' And he was hungry. He nibbled first one, then another. Soon he was clear to the end of the row and all that was left of Grandpa Rabbit's prize cabbages were little stubs.

"Bobbie-ie, Bobbie, where are you? Lunch is ready," called Grandma Rabbit. But Bobbie couldn't eat any lunch. He had eaten so many young cabbage plants that his little stomach was chuck full.

"You must be sick, Bobbie," said Grandma, looking at Bobbie's untouched plate.

"No, Grandma, I just am not hungry," answered Bobbie. But Bobbie had to take the usual medicine that Grandma Rabbit gave all sick bunnies.

"When Grandpa Rabbit came home that night and found nothing left of his young cabbage plants but little stubs, he was very angry. By the little tracks down the row, he knew the guilty party.

"After supper was over, he called the four little bunnies before him. With a very stern look that made each one wish he had always been good, he said, 'Someone has eaten all my young cabbage plants. Did you do it, Frankie?"

"No, Grandpa," he answered.

"Did you do it, Sammie?" he asked.

"No, Grandpa," answered Sammie.

"Did you do it?" he asked of little Sally.

"No, Grandpa," she answered very meekly.

"Did you do it, Bobbie?" he asked of the littles one, who stood at the end of the row, trembling.

"Yes, Grandpa, I did, and I am very

sorry," answered little Bobbie with tears in his eyes.

"My little fellow, I am proud that you have told me the truth," said Grandpa Rabbit. I will not punish you for this, but see to it that it does not happen again. I hope you will always be as honest as you have been today."

"Thank you for the story," said little Jackie, "I'm going to always tell the truth just as Bobbie Rabbit did," and he skipped off towards home.

"And so am I," said Jennie, as she followed him.

A NOTE FROM AUNT MARTHA.

Dear Little Folks:

Since I wrote you two weeks ago, I have received many nice letters. These letters are all very neat and show real effort. It pleases me to know you do your written work carefully. I hope you will always follow this practice in your school work.

Many asked to have their letters printed. I am sorry that we haven't space to do this every week.

Anna Harris wants to tell the readers how she manages to have a new dress for her doll every time she takes her out. She said it took so much cloth, Mother wouldn't give her any more and now she makes crepe paper dresses for her. By this plan she doesn't have any washing to do.—Sincerely, Aunt Martha.

THE WHITE DESERT.

(Continued from page 153).

ing to be able to bid for the railroad contract. I believe it calls for the first shipment of ties about June first. That would give us plenty of time. If we had your word, we could go ahead, assemble the necessary machinery, snake a certain amount of logs down through the snow this winter and be in readiness when the right moment came. Without it, however, we can hardly hope for a sufficient supply to carry us through. And so—"

"You want to know—about heem. You have Ba'teese's word—"

"Really—" she seemed to be fencing again.

Houston, with a hard pull at his breath, came directly to the question.

"It's simply this, Miss Robinette. If I am guilty of those things, you don't want to have anything to do with me, and I don't want you to. But I am here to tell you that I am not guilty, and that it all has been a horrible blunder of circumstance. It is very true in one sense—" and his voice lowered—"that about two years ago in Boston; I was arrested and tried for murder."

"So Mr. Thayer said."

"I was acquitted—but not for the reason Thayer gave. They couldn't make a case, they failed absolutely to prove a thing which, had I really been guilty, should have been a simple matter. A worthless cousin, Tom Langdon, was the man who was murdered. They said I did it with a wooden mallet which I had taken from a prize fight, and which had been used to hammer on the gong for the beginning and the end of the rounds. I had been seen to take it from the fight, and it was found the next morning beside Langdon. There was human blood on it. I had been the last person seen with Langdon. They put two and two together—and tried to convict me on circumstantial evidence. But they couldn't convince the jury; I went free, as I should have done."

(Continued next week).

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I am sending you my week's work—ten dozen pair of socks—and want to tell you what your wonderful machine has done for me in the four months I have had it.

Your machine was much more simple to operate than I had supposed and I started right in to knit the five pounds of Pure Wool Yarn you sent me free. At the end of the first week I sent you six dozen pair and received your check and new yarn to replace what I had used.

I haven't told any one yet what I am doing and I know that some people are wondering where I get the money for the things. I have some new Table linens and some extra Aluminum ware and have saved some money toward a vacuum cleaner.

My knitter has paid for itself many times over and is my whole support. I wish other people, who are in the situation I was, could know what this pleasant home occupation has done for me.

(Signed) MRS. G. S. POPE.

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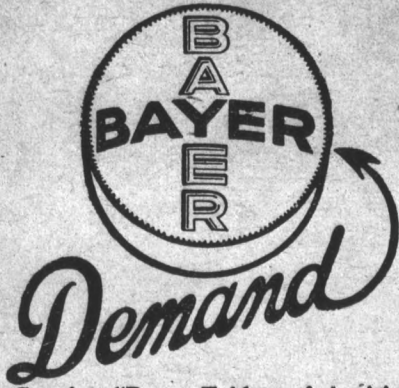
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Woman's Interests



Suit School Lunch to the Weather

How One Mother Solved the Warm Lunch Problem

WHEN my children first went to school we were living in town and they were dismissed at 11:30 and came home for dinner. How they used to rush into the kitchen "hungry as bears," wash and comb, and be all ready when their father arrived.

When we came to the farm to live, school was too far away, so I packed their lunches. At first they liked staying at school during the noon hour.

But with the season for coats and caps and mittens, the cold lunches lost their popularity. A cold lunch may be very nourishing, but it is not satisfying in cold weather, and the children really need something warm.

At first I thought of consulting the teacher and the other mothers in regard to serving something hot, but I hesitated to add to the work of the busy teacher. I decided to try something else first.

It happened that we had thick rice soup with tomato sauce for supper one night about that time, and one of the children watched me dish it up and said, "I wish we might have some of that for our lunch tomorrow."

"Well, I guess you might," I said. It is one of our favorite soups and is very nourishing. It is made this way:

Put into a frying pan two tablespoons of pork gravy, or lard, and when it melts add one cup of washed rice. Stir until the rice browns then add four or five raw tomatoes or some tomato sauce, and set on the edge of the stove to simmer for an hour. Season while cooking, with onion, salt and pepper. If necessary add water.

When I put up the lunches next morning I put the cold, thick soup in the bottom of a broad, oblong dinner pail and laid the wrapped sandwiches on top of it. The dessert and fruit went in last.

At noon the children took out the other articles and put the soup on the stove to heat. At night they were very enthusiastic over their warm lunch, and I found that I had started something, for they all wanted to know what they could take to warm on the following day.

Plan Ahead for the School Lunch.

So I began saving out something from supper or breakfast, or making something extra to put in the lunch pail to be warmed. Sometimes a small granite dish of baked beans, sometimes scalloped potatoes, creamed carrots or turnips, macaroni and tomato sauce, stewed meat with vegetables, mashed potatoes with gravy, or some of the rice soup.

Every day that winter the children had something to warm in their school lunch. On mild days and cold days, in sunny weather and stormy weather, when there was a path to follow and when they had to break their own, the children went to school. They were not sick once and never missed a day.

Just how much the warm lunch had to do with it I cannot say, but I believe it helped and they never went unwillingly to school. And when their father and I sat down to our own warm dinner we ate with more relish knowing that the children too had a satisfying meal.—Mrs. E. H. D.

MAKE MILK ATTRACTIVE, ADVISES HEALTH EXPERT.

WHAT are you going to do with children who do not like milk? is a question mothers frequently ask. These are some of the ways suggest-

ed by prominent nutrition specialists.

Combine milk with other foods as much as possible. Cereals such as rice, oatmeal, and cornmeal have a richer flavor when cooked in milk instead of water. Soups, creamed and scalloped dishes, and souffles offer an unlimited variety of ways to use milk with vegetables. Cornstarch, bread, and tapioca puddings, as well as ice creams and frozen custards have milk as a foundation.

Unusual china may induce the child to drink milk. One mother persuaded her daughter to drink milk by serving it to her in a "Peter Rabbit" cup. Later she allowed her to pour her own

milk from her miniature pitcher.

Milk drinks may tempt the child when he dislikes milk plain. Next time he craves a soft drink, make him a flavored milk drink, give it an attractive name, add a straw or two, and he will be delighted. To prepare a milk drink, put a few drops of flavoring in a glass, add one to two teaspoonfuls of sugar, and fill the glass with milk. Juices from fresh and canned fruits or chocolate syrup might be used.

Milk drinks may be carried to school in half-pint milk bottles. To make this plan successful, it is advisable for the mother to keep a supply of paper milk caps and straws on hand.

Reflections of a Farmwife

HOW hard it is to awaken and realize that the dream you had is not a reality? Last night I dreamed that I went about through the rural communities and wherever I saw a hard-working, discontented woman, I knew at once she was envious of that city friend who seemed to have things so much easier and nicer than she, and I tried to tell them in my feeble way how appearances are sometimes deceiving. "All is not gold that glitters," you know.

To the rural housewife life may seem hard and the days long, but we

have the quiet, restful surroundings day and night for which our city friend is constantly seeking. From one year's end to another, there is not that ceaseless clanging of the street cars as they continue to pick up that never-ending stream of pleasure seekers, going somewhere, they know not where, to get away from the noise and dust which we do not have.

Dust? I hear you say. Yes, but it is such a different dust and we can hang that snow white washing on the line, and take it down whiter than when put up, while she finds hers cov-



Farm Homes Like this One is the Envy of Many City Folks.

have compensations which our city friend knows naught of. Many things the rural housewife has and uses commonly that would be considered luxuries by our city friends.

What city housewife would not give a great deal to be able to go into a store-room like those found in farm homes which gives up treasures of health equal in value to those of Aladdin's Cave? Such canned fruits, preserves, jellies and pickles cannot be bought, and many times when we have seen her dressed up, down town she has been searching for a substitute for these treasures.

What city housekeeper would not be envious of the opportunity to dip into that cream can or that egg basket on bake-day? Baking-day? No, she orders her baked goods by telephone and she and her family eat substitutes.

How many mothers of little ones would give up most anything to be able to sit for a few hours under that beautiful shade tree on our wide, green lawn, to rest and satisfy that incessant call for "another story."

I know that for the farmer's wife, hours seem long and tedious, but we

ered with the smoke from the factory.

Our "Fountain of Youth" is found in our gardens, and at the same time we create the supply of vitamins needed for the health of our family, while the city home-maker must resort to golf and the like to keep in trim.

Then, too, we may think that our incomes are small, but did you ever count the cost of milk, cream, eggs, poultry, fruits and vegetables you use? With those we sell, together with the produce husband sells, exceeds the income of the average city dweller. \$250 to \$300 per month sounds like a nice sum to us who do not get much remuneration for our labor, but when we consider that everything has to be paid for by the city friend, your bountiful supply looks larger to us.

Country friend, I know what I say is true, for I have been the country lady and I have been the city friend, and now I am the country lady again. God forbid that I should ever have to live anywhere than in His great, wide, open country where I can breathe the perfume of the orchard and pine trees and eat of His fresh green herbs and live the everyday life of a "Farmer's Wife."—L. B. S.



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MAKE PLANS FOR A VALENTINE PARTY.

AT the Valentine Party, hearts, darts and cupids run riot. In these, cupids seem to favor pink, but the appropriate color for the season is red.

If you wish to give your guests a real "hearty" welcome, festoon the room with red cardboard hearts threaded on cord or ribbon. Hearts and darts, lovers' knots, little doves and cupids in action also have their part in decorating for the Valentine party.

An effective decoration for the center of the table is a mail box. It can be made of a pasteboard box covered with paper suited to the color scheme. Streamers lead from this mail box to each place at the table. When all are seated, the streamers are pulled and there is a surprise at the end, such as a small favor, a valentine, or a clever joke tied in a peanut shell.

An appropriate luncheon may be served of heart-shaped sandwiches and dainty cakes held together by darts. The valentine salad is made by slicing apples crosswise about one-quarter of an inch thick, and cutting it heart-shape. In the center where the core is removed, place a red cherry. Place this on a crisp lettuce leaf with a tablespoonful of diced pineapple, dot with mayonnaise and sprinkle with chopped nuts.

A "heart to heart" hunt for partners for the evening will help to get the guests acquainted. Divide small red hearts of various sizes into two parts, but divide no two hearts alike. Hide one part in one room and the other part in another room. Each girl must find a part of the heart in one room and match it with the part found by a boy in the other room. These two are then partners.

An archery contest will cause no end of fun. Fasten to the wall a large pasteboard heart with the outer circle of red, then one of black, then one of yellow and then one of white in the center. With a small bow and arrow, the guests in turn try their skill at piercing the heart. For those hitting it in the red circle it foretells courage and love; for the black circle, single blessedness; the yellow circle, extreme jealousy, and for those whose arrow strikes the white circle, an early marriage is predicted.

(If you are planning a party and have questions regarding the entertainment or refreshments, address them to me and I will be pleased to help you. Martha Cole).

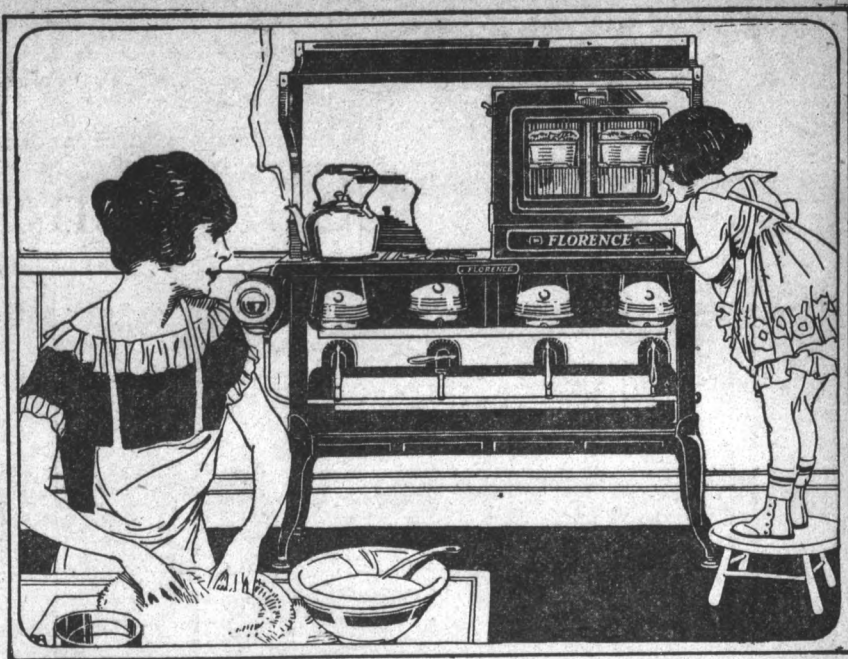
MAKING SAVORY SAGE.

THE other day while I was going through the mail at my desk I continually smelled sage. Where this odor was coming from puzzled me until I opened a letter from Mrs. W. V., of Niles, Michigan.

She says that through a happy inspiration she has discovered a short-cut in pulverizing sage. When the leaves are thoroughly dry, she puts them through a food chopper, using the smallest plate. The year's supply can be made in a few minutes and is then kept in an air-tight can.

The sample Mrs. W. V. sent in was of such a bright green that I was anxious to find her method of curing. She says that as soon as picked she spreads the leaves on papers on the floor of the store-room. Here the light is dim, but the ventilation good, and it dries quickly. She stirs it occasionally until dry, and then stores in paper bags to exclude the light until ground.—Martha Cole.

If the feet become tired from standing to wash the dishes, or to iron, try standing on a rubber rug like those some have at their front door, and you will notice a restful effect.



Her bread will be browned just right in the even heat of the Florence Oven

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LIGHT a match and turn a lever—that is all you do to start a Florence Oil Range. You can instantly regulate the clear blue flame to any degree of heat you wish. The flame is close up under the cooking. Meals are not late when you own a Florence. You can cook meats, vegetables, desserts, anything—well and quickly.



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Dissolve a package of Strawberry Jell-O in a pint of boiling water. Set in a cold place, and when the Jell-O is cool, and before it begins to harden, whip with an egg beater to consistency of whipped cream. Serve with whipped cream or a custard.

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MEAT CANNING PROBLEMS.

I am inexperienced in the cold-pack process of canning. Should water be added if the water boils down in the boiler? How long should beefsteak be processed?—Mrs. F. C.

In the cold pack process of canning, do not add water to the boiler when the cans are in it if the water becomes boiled down. Prevent much of the steam escaping by fitting the cover on the boiler as tightly as possible. Lay a thin towel or a piece of muslin over the top of the boiler before placing on the cover.

If you can your beefsteak raw, it is necessary to process it three hours. But if you fry it down, and can it in its own liquor, one and one-half to two hours is long enough for the processing period. Cooked meats are not processed more than two hours.

PROPORTION FOR PIE CRUST.

Will you please tell me how much lard to use in pie crust, and also send me a recipe for making dumplings?—Miss E. B.

The following is a good recipe for rich pie crust:

4 1/2 cups flour 4 tps. salt

1 1/2 cups shortening Cold water to moisten

Mix the flour, salt and shortening together. The fat may be cut in with a knife. Add just enough water to make the particles adhere together. Turn on a lightly floured board, roll thin, handling as little as possible. This makes three two-crust pies of ordinary size.

For dumplings use two cups of flour, one-half teaspoon salt, three-fourths to one cup milk, or chicken or meat stock, four teaspoons baking powder. Sift dry ingredients together and stir in the milk or stock gradually. Drop from spoon into hot stock and do not uncover the dumplings until done.

COOKING ON A PLANK.

I received a new plank platter for Christmas, but do not know how to use it. Can you please help me?—Mrs. A. O.

The plank, which is usually of oak, may be used both as a cooking utensil and as a platter for serving food. Usually the food is cooked in the oven,

or under the broiler until nearly done, and is then placed on the plank and reheated in the oven. The food is served from the plank at the table. In using planks for cooking, the first step is to heat it thoroughly in a hot oven for about fifteen minutes. Sprinkle the plank with salt and brush with butter before placing the food on it.

Foods that require less than an hour for cooking may be entirely cooked on planks. Fish and chicken are usually split before planking. Steak and chops are especially good served from the plank. Steak should be cut from one and a half to two inches thick.

BLOOD SAUSAGE.

Will you please tell me how to make blood sausage?—M. G.

This is a well recommended proportion for sausage:

25 lbs. cured fat back or 1 lb. salt
shoulder fat 3/4 oz. sweet pepper
7 lbs. cured fat skins 1 oz. sweet majoram
6 lbs. blood 3/4 oz. cloves
1/2 lb. onions

Cook the fat, which has been cured, or sweet pickled, for about an hour, and the skins two hours. Put through grinder, add the blood and seasoning, and mix thoroughly. Stuff into large beef casings and boil in the same water in which the meat was cooked, until the sausage floats. Dip into cold water and hang in a cool place.

A BULLETIN TABLE.

UNDER telephone is placed a small table. Upon this is placed a pad to receive lists of groceries needed, (a pencil is fastened to the table), telephone messages for the absent ones of the family, cards of social or business callers, daily papers, interesting circulars and mail for the absent members of the family.—Mrs. F. K.

HOME-SPUN HINTS.

AFTER damp or frosty weather we found it impossible to raise our windows until I hit on the following plan: I put a tin box 1x2 inches, directly under the sash at one end. A tack held it in place. Now I use any piece of tin that will slightly raise sash. Knife blade is O. K.

The syrup in pies often cause them to stick to plate when cold. Try putting them on stove for half a minute, and you will save pie crust, time and patience.—Mrs. R.

Fill a Seat in the Congress

WHEN the "boss of the ranch" starts for the Agricultural College next Tuesday, don't let him go alone. Pack up the kiddies and come along, too. There will be special programs for the women folks as well as the men folks, and joint sessions together.

The following is the program of good things of special interest to the farm wife that has been lined up for the week:

Housewives' Congress.

(Auditorium, New Home Economics Building).

Tuesday, February 5.

9:00 A. M.—Recital by Music Department, M. A. C.

"Value of Salads in the Diet,"—with demonstration—Miss Adele Koch, Assistant State Leader of Extension.

"What Hats Make of Us," Miss Emma P. Garrison, Assistant Professor of Home Economics.

"Financial Arrangements," a play given by the Columbine Players.

Wednesday, February 6.

9:00 A. M.—Recital by Music Department, M. A. C.

partment, M. A. C.

"How to be Wise when One Buys," Miss Julia Tear, Assistant Professor of Home Economics.

"Step-saving Suggestions," Miss Marion Rogers, Extension Specialist in Home Management.

"Arrangement of Furniture and Furnishings," Miss Winifred Gettemy, Assoc. Professor of Home Economics.

Thursday, February 7.

9:00 A. M.—Recital by Music Department, M. A. C.

"Rickets, the Most Universal Disease of Infancy," Dr. Marie Dye, Assoc. Professor of Home Economics.

"From Danger Valley to Safety Hill," a health play for children.

Friday, February 8.

9:00 A. M.—Recital by Music Department, M. A. C.

"Fancy Work," vs. "Art Needle Work," Miss Eunice Ryan, Extension Specialist in Clothing and Textiles.

"Home Economics Here and There," Mrs. Louise Campbell, State Leader of Extension.

Round Table Discussion.

Rural Health

By Dr. C. H. Lerrigo

WRONG IDEAS ABOUT CONSTIPATION.

THERE are people so constipated that they are never clean. They have an unclean skin, an unclean color, and an unclean odor. They pass their days in a condition of poor health and their lives are soured and stunted without their actual knowledge of the reason. Such people find constipation a real curse. A diet of spinach and other greens would go far to sweeten and brighten their lives.

Far more people are there who are so obsessed by the fear of constipation that they never allow the bowels to perform their normal function. They must be "forever" dosing themselves with this pill or that salt, perhaps because of some inordinate fear that nature, in resentment that man no longer sways his body on all fours, will refuse to allow his scavenger system to function.

This dread of constipation is decidedly overworked and capable of causing serious damage to the victim unless good judgment is in control. If the patient who happens to miss the daily evacuation of the bowels simply says, "I must attend to that. I must drink more water. I must eat some fruit, or spinach or head lettuce every day," well and good.

But that is not the usual outcome. Eating fruit or drinking water is too normal a method of correction to commend itself to the average person as a remedy for constipation. He must have something strong (and usually nasty). A pill or a dose of salts are the common agents employed and since one dose calls for another the taker soon becomes a regular devotee of the pill habit. Far better for him to make up his mind that nothing very terrible happens if the bowel evacuation is occasionally missed; that individuals differ; that there are people for whom clearance of the bowels every two or three days is normal. Have a daily bowel habit if possible, cultivate it, encourage it; but do not try to drive it by taking pills and purgatives or you will soon be the worst kind of a constipated human being.

MAY CAUSE TEMPORARY DERANGEMENT.

Does pneumonia ever affect the mind so that a person may go insane? Would he be likely to recover?—M. K.

Yes. Both pneumonia and influenza affect the nervous system and may cause temporary derangement. Usually the patient's mental condition improves as the disease leaves.

NO NEED TO WORRY.

My husband has white spots that come on several places on his body and nothing that we can do for them helps. He seems in perfect health, but this worries us very much.—N. D.

The trouble is Vitiligo, sometimes called piebald skin, or Leukoderma. It is due to the destruction of the pigment cells in the skin, but just why these cells die is unknown. It does not seem to be dangerous to health and there is no treatment worth while.

RECOVERY FROM GOITER OPERATION.

How long ought it to take to recover from an internal goiter operation? I was operated on successfully eight weeks ago but still have strange aches and feelings that are not normal, in my head.—H. M. S.

I think your goiter was of the exophthalmic variety and therefore of a poisonous type. It is not surprising that at the expiration of only eight weeks you still have distressing symp-

oms. You have probably absorbed the poison for a period of many months or possibly years, and it will take a long time for your organs to eliminate it all from your system. Eat a variety of foods, including enough green vegetables to keep the bowels free, drink plenty of water to help the process of elimination, and don't allow yourself to be discouraged.

USE OF MINERAL OIL.

Please say if there is likely to be any bad result in an old person taking mineral oil every day for constipation. Does it poison?—R. K.

While I do not think it wise to take any form of laxative medicine regularly, I know that it sometimes happens that the infirmities of old age demand special help. The mineral oil has some objectionable features, one of which is oozing from the rectum, but it is not poisonous.

BLADDER TROUBLE.

Is there any cure for a bladder trouble that attacks a man of sixty-two, who is otherwise in very good health? The chief trouble is that he has to get up in the night several times to urinate. There is no pain or anything of the kind. Have never had venereal disease.—M. A. N.

This trouble is probably due to hypertrophy of the prostate gland. It is very common in men who are getting past middle age and is often called "the old man's weakness." The prostate impinges upon the bladder and if there is any great degree of enlargement it crowds up into the bladder wall and creates a pocket which cannot be emptied of urine. This residual urine ferments and causes irritation so that there is frequent urging to urinate. In a man as young as sixty-two, if in good health, I strongly recommend an operation to remove a portion of the prostate. This is now a common operation and is conducted very successfully by experienced surgeons. It cures the trouble; and a cure of a condition that is likely to disturb one's sleep for fifteen or twenty years is worth all you can pay for it.

CORNS.

What is the difference between a soft corn and a hard corn, and how may both be cured?—M. F.

A soft corn is only different from a hard corn because, being located between the toes, it is kept constantly macerated with their excretions. A good way to cure corns is to cut narrow strips of surgeon's plaster and cover the surface of the corn, building it up around the edges so that pressure is removed from the tender corn. This does not work quite so well with a soft corn. Many times a soft corn requires nothing more than a pledget of cotton to keep the toes apart, and dryness maintained by dusting with boracic acid powder. Where this is not sufficient, a preparation composed of twenty grains of salicylic acid, ten grains of cannabis indica and a half ounce of flexible collodion may be painted on.

BATHING BABY.

What about bathing a little baby in cold weather? Should it be done, and if so, what should be the temperature of the water?—K. L.

The season makes no difference. The things to consider in bathing a young baby are the temperature of the room, which should not be lower than seventy-five, and the age and vigor of the child. A young baby should be bathed in water at about body heat, say 100 degrees, and should not be long exposed. For the average baby a bath every day is the proper thing.

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Most Thrilling Experiences

By Contest Winners

By Rena Pater, Hudsonville, Mich.

The most thrilling experience I ever had was on a warm, sunny day last June.

It was about three o'clock when I told my brother to get my pony because I wished to go out for a short ride.

I had gone about a half mile when my pony who was thirsty saw a pool of clear water near the road. He did not surprise me by walking right up to it and taking a drink. I could not blame him much, because it was very hot and dry.

A little boy, who was our neighbor, came walking past, but as I did not see him, and he being very naughty, threw a stone at my pony, scaring him so much that he took one big jump, throwing me over his head into the water.

When I came once more above the water I felt very queer having my face, hands and clothes so full of mud that I could not see, hear or think. But when I came near the bank I found my pony waiting for me, and the little boy laughing at me so hard that he had to hold his stomach to keep from getting a fit.

As soon as I got home I was cleaned up and felt much better, though very much disgusted.

By Helen Fritz, Lawrence, Mich.

One Christmas we had a lot of company, and among them were some children. We had a large collie dog that would pull a sled or anything you hitched him to. I was driving him around on a sled when they got ready to go home.

They forgot their gifts, so I started after them. I called to them and hollered giddap to the dog. The cars had

made a deep track in the snow, and the dog insisted on running in the track, and so one runner was up and the other down. But I stayed on the high side.

After a half-mile race I overtook them and made them stop. Then I said, "I will race you home." They went so fast I had to stay by the side of the road. My sled hit a stone and I fell off and lost my lines. I ran and laid down on the sled. The dog turned such a short corner when going in the yard that the sled turned bottom side up. But I hung on and won the race.

By Frank R. Kaniarz, Pellston, Mich.

The most thrilling experience I ever had was in the woods about six miles away from home.

It was at about twelve o'clock and it was a very dark night to be in the woods alone.

As I trudged along, catching spider webs with my face, getting plenty of brier scratches, etc. I heard a rustle around me, and I looked into two glaring, angry eyes.

My hair stood up on my head, as the animal approached a step nearer to me.

I turned and ran, the animal in pursuit, and I continued to run until I could get a tree to climb into. To this I succeeded, for right ahead of me was a tree with low branches, into which I ascended like a cannon ball.

I sat down on a branch and looked down, and there was the animal with shining eyes still looking up at me. I fell asleep, not knowing where I was at dawn, when the sun shone straight into my eyes.

Remembering the animal, I looked down, and there was Pooch—my own faithful dog.

I put in full time playing at school noons and recess. In our new consolidated school, where there are 257 scholars enrolled, we have glorious times, getting acquainted with someone new every day. We enjoy our new schoolhouse, have been to entertainments in the auditorium; it is fine.

I love my music, and take a lesson every two weeks during school. My big yellow Kitty sits in my little chair by me while I practice. Wish you might all see him. He came here two years ago, a great big stranger and has made his home here ever since. He is a real pet.—Your niece, Clara Garinger, Woodland, Mich.

It is fine that you enjoy the new school so well, and I am pleased to know you like music. I do too. Apparently your cat does also.

Dear Uncle Frank:

I wish to thank you for that flashlight. I use it when I go to basketball games, and say, it's sure better than stubbing your toes over roots and stones.

I'd like to express my opinion of the



The Way Frances Butler, Augusta, Mich., Looked Three Years Ago.

present "political" divisions of the "Merry Circle" right now.

Why should we elect officers, what good would it do? Why isn't the Merry Circle all right as it is? Of course, we want to be progressive but why not have branch "clubs" with officers? Have each club send in a report and try on contests together, and have a general good time at it?

I think it would be nice for us to send in contributions, which could be given to the poor.

Well, I'll have to ring off. From Frederick Reynolds, M. C., Waldron, Michigan.

There really is not much "political division" in the M. C. We are just a merry bunch together, trying to put some good into life so that we may get some good out of it. I like your branch club plan; it will undoubtedly be a development of the future.

Dear Uncle Frank:

I have never written to you before, but I have read the "Letter Box" in every Michigan Farmer, although I am not a member of the Merry Circle.

The pupils in the high school went to the sugar beet factory at Caro, Michigan. The sugar beets are sliced, then ground and put into a tank and diluted with water so as to make it a thin liquid. Then it is boiled so as to make the water evaporate, and is finally made into white sugar, which is in lumps. But it is screened and part of it made into fine granulated sugar. It is hot when it first comes out, but it soon cools.

Some of the members of the Merry Circle do not like the Waste Paper Basket, but just think what Uncle Frank would do without W. B., because the papers would be all over the floor.

I would like to have a discussion on "Women's Right to Vote."

We organized our class last year, and our class motto is "Dig."

I remain, your friend, Maud Stratton, R. 2, Fostoria, Mich.

Your sugar factory trip must have been interesting. As you say, W. B. serves a useful purpose. You also hit it right regarding my getting knowledge from the letters. Tell your M. C. sister, Myra, that I enjoyed her letter. Am sorry I did not have room for both.

OUR LETTER BOX

Dear Uncle Frank:

This is the first time I have written to you. If the waste basket is hungry this month, I will try, try again till I succeed. When I write Uncle Frank it feels like I am writing to my daddy, as his name is Frank, too.

I am twelve years old, and am in the fifth grade in school. We have a sewing circle club in our school, of which I am a member, too.

I must help my mother now to wash the dishes, as I am mother's "Little Helper."

So good-bye, from Anna Jaarda, R. 3, Box 82, Holland, Michigan.

I am glad it seems like writing to your daddy when you write to me. I bet that mother appreciates the help her "little helper" gives her.

Dear Uncle Frank:

I am fifteen years old and in the tenth grade at Ann Arbor High School. I like English and algebra. Algebra is quite hard, but then, what isn't these days? I also belong to the mandolin and guitar club. We have seventeen members now, I think.

A girl, who lives in the city, once asked me if I did not get lonesome over vacation. I do not see how any girl who loves the farm can get lonesome. There is so much work, and then we have so much room to run and play with our pets.

We have a dog and three cats. I have one cat which is my favorite. She always comes to the house to see me. The dog does not like her very well, but he has learned to keep away from her.—Your niece, Viola Stein, R. 1, Ann Arbor, Michigan.

Everything worth while is hard. Things which come easily are usually not appreciated. Your dog must have

quite a little self-control to get along with three cats.

Dear Uncle Frank:

But a few hours and we will enter the year nineteen hundred twenty-four. Yet I may not let this year pass without thanking you for the Merry Circle card and pin received some time ago.

I dare say I was a little proud when I received that card and pin. Yes, indeed proud, and why not? Ought not one to be proud to be a member of such a circle as this is, with so many boys and girls who have such talents?

And then, again, my proudness vanishes as lightly as it comes, for why should I be proud? That there are members with poetic talent, or composers, or artists, or of whatever kind they may be, wouldn't do me any good, only to admire their talent. O, that I would rank among these brightest.

I wonder if any of you ever visited Lucas. If any of you ever do visit here, you will want to stay. It is very much like the "Grove of Daphn," we read of in "Ben Hur," and that is only making it very mild.

My hope is very vague that this letter will escape the waste basket, but if, the hope only grows.—Your niece, Garret Kling, Lucas, Michigan.

Your hope grew to fulfillment with reference to this letter. I hope it does with reference to your ambitions. I am glad you are proud of your M. C. And, too, I am glad you had M. C. thoughts at the close of the year.

Dear Uncle Frank:

I certainly enjoy the M. C. letters and would like very much to join. I have no children of my age close by to play with.

How I Spend My Sundays

By the Prize Winners

By E. Gertrude Collins, Onaway, Mich.

I think that Sabbath, or Sunday, is the best day of the week; the one day of the week that I look forward to with pleasure.

It is a day of rest, not only from work, but from worldly thoughts and deeds. It is a day when we should turn our thoughts to "The One from whom all blessings flow." Not only for the short time we are in church, but for all of that day. That is what mother has taught us children was right.

I go to Sabbath school and church in the morning. When we get home we have dinner, then go for a walk with my younger brother and sister in the woods. Sometimes we take something to read and sit in the shade of the trees and quietness of the woods, and read. At other times we just talk. Sometimes mother goes with us. In the winter we go to church just the same, but in the afternoon we sit around the fire and read a while, then we go for a brisk walk through the sharp cool air, then back to our books and papers again.

By Goldie Kleinhardt, M. C., 3452 Hendricks Street, Detroit, Mich.

After the religious part on my Sunday program, the day is half gone and the afternoon is clear. Clear? Well, not exactly, as we are sure to have the afternoon in company entertaining. It is not fully my choice, as I would rather be alone on Sunday and enjoy the sweet calmness of the day.

Oh! just to be on a farm and hear the chimes of the bells in the distance, and use my legs to press upward toward the little brown church on the hill. That alone would almost tell how I would like to use my Sundays. The mornings would be used the same as in the old program, but the afternoons would be entirely different. I would either use its precious minutes visiting the sick, strolling through the woods to see God's beautiful nature, or choose a comfortable little nook in a quiet corner and read.

By E. Lucinda M. Wingate, M. C., Manchester, Michigan.

For me, Sunday is the most pleasant and enjoyable day of all the week. It brings a day of activities absolutely different than any other day. It leaves behind a week of various occupations and comes as a sacred day set aside for rest and attending church.

I find a real joy in attending Sunday school and church in the forenoon each Sunday. Again in the afternoon I go to another place to Sunday school and church. I frequently attend church Sunday nights, but if I cannot, I spend my time reading the Sunday school papers. A few times this winter the weather was not permissible for attending church, so I was compelled to stay at home all day.

As for how I would like to use my Sundays, I could think of no better way or one more enjoyable. I have played ball and other games on Sunday, but now I prefer my present method of spending Sunday.

By Grace Wilterdink, Holland, Mich.

I rise at an early hour Sunday morning. After breakfast is over I take my quarterly and look over the lesson. When I finish looking up some Bible references, I study the golden text. At nine-thirty we start for church. Services start at ten o'clock, and after church we have Sunday school. I am present at both services.

In the first part of the afternoon I usually read my "What to Do," a paper I receive in Sunday school.

During the long winter evenings our neighbors come over to sing. We sing the good, old Gospel hymns. We all enjoy singing them. This is the next best thing to church. We are unable

to attend evening service during the winter evenings.

Summer evenings I go with our folks to church. If convenient I attend Christian Endeavor. Summer afternoons I walk to a nearby woods. There are many wild flowers and I enjoy picking them. Sometimes I take a book along to read.

We have an orchard about a quarter of a mile from our house. Quite often I take a walk down there to eat pears and other fruit. The orchard is on a high hill. The scenery is beautiful.

If the weather is rainy I write letters or I play the piano.

Living quite far from church it is sometimes inconvenient to be present at the evening services in the winter. I would like to be present at God's house the whole year around.

This is the way I spend my Sabbath.

THE SUNDAY CONTEST.

I AM glad to see that going to Sunday School and church is prominent in the Sunday activities of most of the Sunday contest writers. Contrary to the opinion of many, most of the writers find these church activities real enjoyment. The balance of the day with most is usually spent in wholesome pleasures, such as going to the woods, auto trips, skating, or in other ways communing with nature, which is God's handiwork.

One fellow said he saw a preacher wrestle with a chair and swear. What he would have liked to have done was to knock that preacher crazy and then go hunting. Another admitted that he liked Sunday fishing pretty well. One said he liked Sunday School real well, but he'd rather be a dog than be washed up for it.

The writers of the first two papers above won fountain pens; the other two won flashlights. Other prize winners are:

Flashlight.

Thelma McMahon, Beaverton, Mich., care V. V. Knox.

Candy.

Rosina Colby, Denton, Mich.
Hugo Hallstrom, Eben Junction, Mich.

William Conner, Ypsilanti, Mich., R. 3.

Reka P. Klynstra, R. 3, Hudsonville, Mich.

Douglas Baldwin, R. 1, Paris, Mich.

Correspondence Scramble

SO many Merry Circlers write expressing a wish that some of their fellow Merry Circlers would write them letters. I think it is great that they should want to correspond with others interested in the same line of activities, but I have often wondered why they did not start writing themselves, instead of asking some one else to do the starting.

The lack of space prevents me from running the names of those who wish to write, so my only means of getting correspondence started between Merry Circlers is through the Correspondence Scrambles.

To those who have not taken part in these Scrambles, and as a reminder to others who have, I give the following suggestions:

Write a letter to an unknown Merry Circle friend, then address an envelope to yourself and place a stamp on it. Enclose the letter and the addressed envelope in another envelope addressed to Uncle Frank, Michigan Farmer, Detroit, Michigan. If you are below twelve years of age put in the lower left hand corner of the envelope, "Correspondence Scramble A." If you are twelve, or over, write "Correspondence Scramble B" in the lower left hand corner.

This Scramble closes February 15. Let's make this a Merry Scramble.

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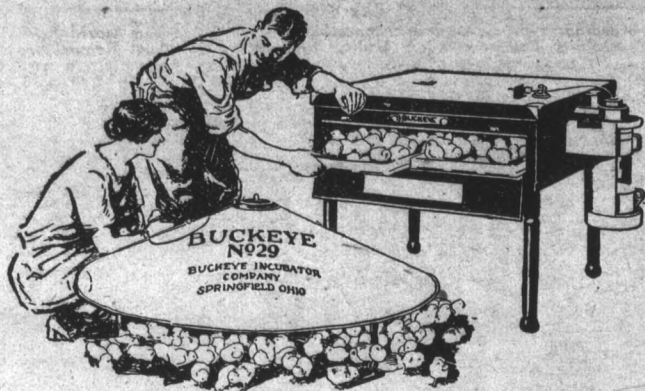
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Farm Poultry

LEVELING THE INCUBATOR.

I FIND that farm house floors are sometimes not exactly level, whether they are concrete basement floors or the wooden floors of upstairs rooms. It pays to have the incubator level, as heat tends to move upward and we wish an even temperature all over the machine. A level machine is less subject to vibration than one which is not setting squarely on all four legs.

In some incubators I have used, the legs have not been machined carefully enough to make the machine set level. I find wooden shingles are a great help in firmly placing an incubator. They are thicker at one end than the other and can be gradually shoved under the leg until the machine is exactly level. There is no satisfactory substitute for the spirit level in placing an incubator but a dish of water placed in the middle of the machine is the next best method.

Be sure that the legs are not sprung in shifting the machine. They must rest squarely under each corner to prevent a jar every time the caretaker walks around the machine or touches it. I think unnecessary shaking of the machine may be a cause of some of the chicks failing to develop properly, or dying in the shell.—K.

INCUBATORS NEED VENTILATION.

POOR hatches may result from operating an incubator in a small room where there is a lack of fresh air. The products of combustion from the lamp must not pass through the machine. Remember that air is constantly passing through the incubator and the quality of the air is no better than the outside conditions.

The ventilation in cellars can sometimes be improved by removing one of the glass windows and substituting a curtain made of feed sack material. The curtain will retard draughts but permit oxygen to enter the cellar and allow the fumes of the lamp to escape.

Be sure to operate the ventilation of an incubator according to the directions of the maker. Many hatches are injured each year through disregard of the directions which will permit too much air, or not enough, to pass through the machine at different periods of the hatch.—G.

HENS AND CHICKS DIE.

My Wyandotte hens have laid heavily since November. Lost three this past week. Hadn't lost any for two years. They die suddenly, do not act dumpy, and are not fat. Two had eggs in them. They have hard, knotty growths on the intestines, some as large as a pullet's egg, and some small as a berry; also spots on the liver. The last one that died had blood on feathers around vent and was full of blood inside. Had also found some growths on baby chicks which died.—E. F. P.

The knotty growths which appear to be on the intestines may be diseased ovaries, due to infection from white diarrhea. A bird in that condition would transmit white diarrhea to her chicks. The spots on the liver might indicate tuberculosis, especially if that symptom is combined with lameness in one leg and rapid emaciation.

The hen that died with blood around the vent, and proved full of blood inside, had suffered from an internal rupture, probably due to the strain of laying. It is most apt to occur among hens that become overfat. The growth on the intestines of the very young chicks may have been only egg yolk which hardened and did not absorb. This seems most prevalent when the incubator overheats. When the young chicks have swelled crop or sour crop it pays to knead the crop to remove as much material as possible and loosen up any mat of grass or other material which has caused the trouble. Then the bird can be given a dose of castor oil or epsom salts and isolated until

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JUST RITE BABY CHICKS

PEDIGREE, EXHIBITION and UTILITY MATINGS. 20 popular breeds, high power layers, 20 rare breeds, breeds ducklings. Nabob Quality, none better at any price. 97 per cent live arrival guaranteed. Postage Paid. Free Feed with each order. Catalogue free, stamps appreciated. Nabob Hatcheries, Ave. 20 Gambier, Ohio. "Ohio Chicks are Better"

WORLD'S CHAMPION LAYERS

Hollywood and Improved English S. C. WHITE LEGHORNS. The American Business Hens: 250-300 egg bred line. Large White eggs. Winners at National Shows and Egg-Laying Contests.

HIGHEST QUALITY CHICKS from certified tested hens mated to high power pedigreed sires. Discount on early orders. Valuable instructive CATALOG FREE.

DEVRIES' GRANDVIEW POULTRY FARM, R.R. 6, Zeeland, Mich.

Baby Chicks S. C. W. Leghorns

—Only—
Pedigreed Certified
Michigan's Largest S. C. W. Leghorn Farm, over 2000 Birds. Hatch our own eggs only. Supply limited. Order early. One trial will convince you. Free Circular.

SIMON HARKEMA and SON,
R. 1, Holland, Michigan

BABY CHICKS

Send for descriptive matter and price list of our **Pure Bred Practical Poultry** 10 LEADING VARIETIES.

Some fine breeding this year in improved egg quality stock; customers' egg records from stock of last year. Cockerels, a few unsold in Barred Rocks, White Wyandottes and R. C. Reds, \$3.00 and \$4.00. STATE FARMS ASSOCIATION, Masonic Temple, Kalamazoo, Michigan.

64 BREEDS Most Profitable Chickens, Choice, pure-bred northern raised. Fowls, eggs and incubators at low prices. America's great poultry farm. At it 31 years. Valuable 100-page book and catalog free.

R. F. NEUBERT Co., 81 1/2 Main St., Minneapolis, Minn.

Whittaker's Reds Chicks

And eggs for hatching. Rose and Single Combs. Michigan's greatest color and egg strain. Bred from fourteen generations of winter layers. Write for free catalog. Interlake Farm, Box 39, Lawrence, Mich.

the condition improves. Such cases require prompt treatment before the bird becomes very sick, due to the poison which accumulates in the system.—R. G. Kirby.

TUBERCULOSIS.

Can you tell me what ails my chickens? Liver, heart and intestines are covered with white, fatty-looking lumps. Generally the birds get lame and then die.—N. D. H.

The symptoms indicate tuberculosis and there is no cure. If the flock is large and valuable it might pay to have a veterinarian inspect the birds and make recommendations. When a flock is infected with this disease it is best to clean out all the birds and then start over with healthy stock after a thorough spraying of the house. It is often best to keep poultry away from the range where the sick birds have been and in six months or a year the sunshine and action of nature will destroy the disease germs.

RAISING GEESE.

I SAW in a recent issue of the Michigan Farmer, the question asked, "What is a good starting feed for the young goslings?" I don't believe the person that answered that question ever fed very many young goslings—for in my experience they will not eat green grass when two days old.

They will not eat much and should not be fed very much for the first two or three days. Bread and milk is the very best "starter" for them, and just a little dish of fresh water, warmed a little. But do not let them get wet by puddling in it, as it is apt to chill them.

Little goslings have to be handled a lot like little chicks—not too much feed, but kept warm, as bowel trouble is apt to follow if allowed to get wet and cold. After the first week, I add rolled oats to the bread and milk, some may think this quite an expensive feed but it pays nevertheless.

Last year I hatched fifty-four goslings, and raised everyone except two, which smothered under the hen. I didn't have a gosling get sick and die. It is a good thing to dry egg shells and add one to the mash each feed, as it gives them plenty of grit. I do not raise my goslings with the hens or old geese, but by hand. They are so apt to smother under the hen.

Now, in regards to geese eggs hatching: Last year I had a one-year-old gander and my geese hens were two years old, and my eggs hatched fine.

I always give my geese a balanced ration at laying time, but not whole grain—equal parts by weight of bran, oats, corn, wheat and meat scrap, ground, of course. You will be surprised how they will eat it. Give plenty of water, give them a big pail full of nice fresh water early in the morning, and watch the results.

Don't try to choose the place for your geese to make their nests for it only disturbs them, if you just give them a nice clean place with plenty of dry bedding, they will take care of the nesting proposition. I always get the geese eggs under hens, number the eggs and turn them every day, and set the first eggs first, but do not try to keep them over four weeks. Keep them in a cool place, but not to chill, and keep them covered up, as I think the light hurts them, and if it is quite cold when setting the first eggs do not put over four or five under a hen. Turn them every day after the first week, and the fourth week sprinkle three or four times with warm water. Give your breeders a warm place to sleep nights, but let them out through the day.

I hope I have made this plain, as I have had splendid results in handling my breeders and young goslings like this, and am glad to "pass it on" to someone else who is trying to raise geese.—A. Michigan Farmer Reader.

KARSTEN'S QUALITY**BABY CHICKS**

From Stock—That Is Bred With The Laying Habit

HOLLYWOOD AND BARRON ENGLISH STRAIN MATINGS
SINGLE COMB WHITE LEGHORNS

250-300 Egg-Bred Line

Careful breeding, typetesting and trapnesting has produced our world-famous Karsten's Quality Laying Hen—A Utility Bird With Standard Requirements.

Our Leghorns are long, deep-bodied, wedge-shaped birds, with wide backs and low spread tails, big lopped combs and alert eyes. Birds that lay those large white eggs that bring the high prices on the New York Market. Our Baby Chicks cost no more than you would pay for common stock.

WE WANT TO PROVE THIS TO YOU. SEND FOR FREE CATALOG.

It describes our wonderful breeding establishment, it tells what and how to feed your chickens for profit, it will show you how you, too, can double your poultry profits. WRITE TO-DAY AND GET YOUR COPY.

Quality Stock Without The Fancy Prices

KARSTEN'S FARM, Box Y, ZEELAND, MICHIGAN

WYNGARDEN'S "EGG-BRED" BABY CHICKS

Are the best laying strains on earth. Egg-Bred Barron English White Leghorns, Brown Leghorns and Anconas backed by 19 years' actual breeding on our farms. Experts call out our flocks yearly, and mate them with large, vigorous 280-288 Egg Pedigreed Males from Hollywood & Funk Farms direct. This guarantees—not a few high record birds—but an extraordinary flock average. During 1924 we will sell 30,000 weekly of these active, healthy, carefully hatched baby chicks—the kind that will keep your Egg Basket full. Hundreds of our customers are making Big Profits. It will pay you to buy our Egg-Bred Chicks. Our 1924 catalog tells the whole story, it's free—write for your copy tonight.

WYNGARDEN HATCHERIES & FARMS.

Box M

Zeeland Mich. U.S.A.

**Special Low Prices NOW!**

Barron and Hollywood imported White Leghorns. Not just a few 300 egg birds but a high flock average egg production—that's where you make your profit. Hatched in the largest and finest hatchery in Michigan at the rate of 150,000 eggs to a setting.

Send for Big 24-Page Catalog Today
This handsomely illustrated book sent free for the asking—contains valuable information on chick raising and full description of all chicks hatched by us—Tom Barron and Hollywood White Leghorns—Barred Rocks and other popular breeds. Send for this catalog and prices today. Live deliveries and complete satisfaction guaranteed or your money back. Write today.

Superior Poultry Farms, Box 200, Zeeland, Mich. U. S. A.

**Pure Bred Big Value Chicks**

Best paying standard varieties from healthy free range utility flocks, carefully inspected, culled, and Hogan tested. Quick maturing. High Egg Production. Each

S. C. White, Brown and Buff Leghorns	140
S. C. Anconas, S. C. B. Minoras, Barred Rocks, S. Reds	160
White Rocks, R. C. R. I. Reds, White Wyandottes	170
S. C. Buff, S. C. White, Orpingtons	200
Assorted Varieties Broilers	120

Get our big illustrated catalog and prices on our Hi-Quality Chicks. It is Free. Big Offer on Brooders.

Wolf Hatching & Breeding Co., Dept. 5, Gibsonburg, Ohio

HUNDERMAN'S First-Class Chicks \$10 AND UP

We are heavy producers of first-class chicks. Flocks on free range. Culled by expert. 100 per cent live delivery guaranteed. Order today from this Ad. and get chicks when you want them.

	50	100	300	500
English S. C. White Leghorns	\$6.50	\$12.00	\$36.00	\$57.50
Barred Rocks	\$5.50	10.00	48.00	77.50
Single Comb R. I. Reds	9.00	17.00	50.00	82.50

Mixed Chicks—\$10 per 100 straight.
Blue Hen Incubators. Reference: Zeeland State Bank. Order today. You take no chances. Catalog Free. HUNDERMAN BROS., POULTRY FARM, Box 25, Zeeland, Michigan.

Early Maturing BABY CHICKS

These chicks are from flocks headed by cockerels of high producing blood lines. Culled by experts. Each flock personally supervised. Pure-bred. \$13 per hundred up.

Special: We have a limited number of superior grade chicks from special matings. Write for description and prices. 100 per cent live delivery. Ref. Milan State Savings Bank.

Milan Hatchery, Box 4, Milan, Mich.

DUNDEE CHICKS
PURE-BRED CULLED FLOCKS

Our chicks are from pure-bred flocks, carefully culled by experts. Anconas are direct from Sheppard. Leghorn flocks headed by males from Michigan Ag. College. Rocks are from a 230-302 egg strain. Reds are Laidlaw's best. Write for catalog and price list. It will save you money. Ref. Dundee State Savings Bank, this city. DUNDEE HATCHERY, Box A, Dundee, Michigan.

EGG-BRED CHIX

200-egg strain S. C. English Type White Leghorns and Brown Leghorns. Large lopped-comb, deep-bodied type. 12 years of breeding for high egg-production. Carefully selected breeders, headed by large, vigorous males, combined with many years of highly successful hatching methods, gives you chicks that will bring you success. 100 per cent live arrival guaranteed. Write for catalogue and prices today.

ROYAL HATCHERY AND FARMS,
R. 2, Zeeland, Mich. S. P. Wiersma, Owner.

BEST CHICKS at Low Prices

Send for free catalog describing best bred chicks in the country. Tom Barron and Tanager White Leghorns, Michigan's Champion Winter Laying Barred Plymouth Rocks and S. C. R. I. Reds. No better chicks anywhere at any price. Satisfaction and 100 per cent live delivery guaranteed.

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HUSKY CHICKS

PURE BRED CHICKS PAY BEST. My heavy laying, personally inspected, Hogan tested flocks, most profitable leading varieties, produce chicks that pay you big profits.

Only one grade the best. Low prices. 97% live delivery guaranteed. Postpaid. Catalog Free. Write today.

SEIBS HATCHERY Box 520 Lincoln, Ill. (Member I.S.C.A.)

BABY CHICKS All popular varieties. High egg production and standard qualities combined. Won 6 firsts, 5 seconds on 12 entries in production class Mich. State Fair. No better chicks available at same price. Now booking orders. Write for circular and prices.

LITCHFIELD HATCHERY, LITCHFIELD, 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 stamps. **GEORGE BEUOY, R. R. 40, CEDAR VALE, KANSAS.**

Additional Poultry Ads. on Page 167

Buy Both

With the Savings Get More Eggs

The DETROIT-ALLIANCE is a Proven BIG HATCHER

THE Detroit is not an untried incubator. For years it has been turning out bigger hatches of fine husky chicks for poultry raisers all over the country. That's why I can so unconditionally guarantee it to out-hatch and outlast any other incubator made, regardless of price.

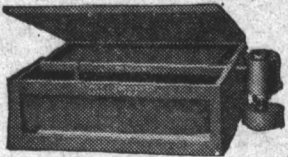
All the features of machines costing twice as much you will find in the Detroit-Alliance. Double walls with dead air spaces between for keeping out the cold and holding in the heat, big nursery, special thermometer holder that keeps thermometer in plain view from outside yet up where chicks can't break it while hatching, automatic heat regulator, copper leak-proof hot water tank with rounded elbows for even distribution of heat in hatching chamber—in short everything that insures large hatches of strong, vigorous, fast growing chicks, is built into the wonder Detroit-Alliance Hatcher.



Shipped complete ready to use except putting on legs.

Freight prepaid east of the Rockies and allowed to points beyond.

Special Combination Offer



Carries 140 chicks through the critical five weeks following hatching. Double walls, hot water heat, durably constructed yet light and easy to clean. A triumph of mechanical ingenuity.

By buying both machines at one time you get not only the best, most complete profit hatching outfit on the market but you get it at tremendous savings—so big, in fact that if you tried to get the same value anywhere else just the incubator alone without a brooder you'd have to pay more than what I am asking for both machines. Write now—get my catalogue and sensational combination offer. Study Detroit-Alliance features and compare, both in quality and price, with any other incubator or brooder ever built. Write today!

WILLIAM CAMPBELL, President

Detroit-Alliance Incubator Company, Dept. 11 Alliance, Ohio

Get Top Prices for your Eggs

City customers drive miles to get choice fresh eggs. They also order them by parcel-post. Prepare for this profitable city trade. Equip yourself with the convenient, safety carriers—

HUMPTY-DUMPTY FOLDING EGG CRATE

You'll know them by the Red Top Rail



Why They Are Better
May be used over and over again.
No tools needed to set up. Customer returns empty cases knocked down.
Made of selected grade of hardwood.

The Postmaster at Minneapolis, states that during season 100 to 150 Humpty Dumpty Carriers pass through his office daily. Same is true of all large shipping centers.

These strong, durable cases are the favorite of thousands, poultrymen and farmers, shippers large and small, the country over. No bothersome work in packing. Can be used over and over.

NO TOOLS NEEDED TO SET UP Customer Returns Case Knocked Down

Capacity 3, 6, 9, 12, 15 and 30 doz. Absolutely safe. Saves transportation charges. Many states now recommend grading eggs. Sell graded eggs to city patrons or quality stores and get top prices.

If your Dealer can't supply you, write us for Descriptive Folder, Prices, etc.

CUMMER MANUFACTURING CO., Dept. 107 Cadillac Mich.



Highest Quality Certified Baby Chicks

From Michigan's Old Reliable Hatchery, the best equipped and most modern Hatchery in the State. Pure-bred Tom Barron English and American White Leghorns, Anconas, Barred Plymouth Rocks and Rhode Island Reds. Strong, well-hatched chicks from tested Hoganized free-range stock that make wonderful winter layers. Chicks sent by Insured Parcel Post, Prepaid to your door. 100 per cent live delivery guaranteed. Sixteen years of experience in producing and shipping Chicks, giving absolute satisfaction to thousands. Write for valuable illustrated free catalog and price list. Get lowest price on best quality chicks before placing your order.

W. VAN APPLIEDORN,

R. 7,

Holland, Mich



A. L. BALL the BROODER STOVE MAN Says:

I want to send this Book to Every Chick Raiser



MADE IN 3 SIZES

A Coal Brooder that Burns Any Kind of Coal or Coke

It Takes the Coal Worry Away



MADE IN 2 SIZES

CHICKS THAT DIE

Cut a Big Hole in the Profits

I can help you raise more and better chicks. I have put my 20 years experience in a 40-page book called "Just Common Sense in Brooding and Raising Chicks."

Brooding and raising chicks, why chicks die in the shell, why so many die after they are hatched, how to build a brooder house, how to feed, etc. Drop me a postal and I will send it by return mail. On June 1st I sold my half interest in the Inter-State Sales Co., giving them the right to use my old patents on the No. 1 Cold Brooder Stove as long as they continue in business. On June 6th I started my new Brooder Stove factory which is now complete and turning out my Improved Brooder Stoves.



When I first started raising chicks they died off like flies. I found out why! My book tells all about it.

Ball Improved Brooder Stoves BOTH OIL AND COAL BURNING

The OIL BURNING STOVE has an absolutely wickless burner that burns for weeks without cleaning. The oil control makes it possible to sleep nights without fear of chicks chilling. The COAL BURNING BROODER burns soft or hard coal or coke. 15-inch grate, automatic gas control, making it possible to close stove tight; holds steady heat over night. Prices are low. We also manufacture CHICK FOUNTS, FEEDERS, OATSPROUTERS, Etc. Don't buy a Brooder Stove until you get our chick book and catalogue. Write for it today.

Agents and Dealers Wanted

A. L. BALL MANUFACTURING CO.

565 MILL STREET

TIPTON, INDIANA

BROWN EGGS FROM LEGHORNS.

We have a flock of about fifty S. C. White Leghorn hens, of which there is one-half each of old hens and this year's pullets. We feed a ration of laying mash and scratch feed in addition to which we feed cabbage, etc., for green feed, and every noon we feed a wet mash of potatoes, cooked, table scraps and mash. The pullets were supposed to be pure-bred stock. Now we are getting a few dark-shelled eggs, which will not pass for white on the market. Why do our hens lay these dark-shelled eggs? Is it due to the feed? Would the hatchery where the baby chicks were purchased, and which guaranteed them to be pure-bred S. C. White Leghorns, make it right with us?—Mrs. G. B.

Brown eggs would not be produced by White Leghorns because of the ration. The English Leghorns commonly known as the Tom Barron strain occasionally produce a few tinted eggs. Often this can be bred out of a flock by careful selection of the eggs used for hatching.

Leghorns do not often produce eggs that can be classed as brown in color although they frequently produce eggs that are not exactly chalk white. If the birds look and act like Leghorns it is hardly likely that they contain a mixture of foreign blood, although that fact might be suspected if they continue to produce a large number of eggs which are distinctly brown in color. Have some experienced Leghorn breeder in your vicinity make a personal inspection of the flock and give his opinion after seeing the birds which are producing brown eggs.

DUCKLINGS LACK RANGE.

My young ducks have spells of going so lame that they can hardly walk, and then they get all right again. Then at times they flit their heads in the air and fall around as if they were having crazy spells. They are running in a small range about four feet by ten feet, and I am feeding them bran and corn meal, wet, and lettuce for green food. They are about two months old. I have lost quite a number from the same disease.—M. J. R.

I think the losses among the ducklings are due to the close confinement and the extreme heat at certain times this summer. Ducklings cannot stand exposure to the hot sun without danger of loss. On a range four feet by ten feet there is great danger that the birds will lack exercise and the soil become contaminated.

POULTRY QUESTIONS.

Will clipping the wings of chickens prevent their laying eggs? Will a two-year-old gobbler be more preferable than a young one?—J. H. R.

Clipping the wings of hens may slow down egg production because of the fright attending the operation, followed by clumsy attempts to fly. If necessary to clip the wings it is best to do it at night when the birds are easily caught. It may slow down production for a few days and then the birds will usually return to normal.

A two-year-old tom is preferable to a cockerel for producing vigorous poults. Some breeders use early-hatched, well-matured cockerels with good results. Late-hatched toms seldom attain the size and vigor necessary for good breeders the first year.

FEATHER MITES.

I have a flock of blooded White Rocks, all pullets one year old. They lay well, but have something wrong with their feathers. Some of them are nearly naked. It does not seem to be the feather-eating habit, but they seem to look as though the feathers were broken off.—Mrs. T. D. C.

Poultry are sometimes troubled with feather mites which bite the skin at the base of the feathers, causing a loss of the plumage. An ointment made of four parts lard and one part flowers of sulphur can be lightly rubbed where the feathers are missing and it will destroy the mites. Carbolyated vaseline is also used successfully for that purpose.

To raise 95 out of 100 chicks use

DICKINSON'S Globe Chick Mash
(With Dried Buttermilk)

The Albert Dickinson Co.
Chicago Minneapolis

BEST CHICKS

We've been told we do business in an "old fashioned" way. Perhaps we do. We know that we always try to absolutely stick to the truth in our advertising and to test everyone fairly and squarely. If that is being "old fashioned" we're glad we are old-fashioned and we believe our customers are glad too, for they keep on buying from us year after year.

Our chicks are all from pure-bred heavy laying strains. They have been hogan tested and carefully culled and selected for many years to bring them to their present high standard of health, strength, vitality and heavy winter laying. Our flocks are all certified by the Michigan Baby Chick Association. Our prices are low and we guarantee 100% live delivery. We advise you to order early. Write for Free Catalog.

City Limits Hatchery, Holland, Mich.

DAY OLD CHICKS

S. C. Barred Rocks, S. C. White Rocks, S. C. Rh. I. Reds, White Wyandottes, Orpington, S. C. Eng. White Leghorns, S. C. Br. & Buff Leghorns, S. C. Anconas, S. C. Minorcas.

Strong, sturdy, heavy-laying strains, from large, vigorous yearling hens raised on our farms, and culled by expert poultry men, to a high quality of Certified Utility Flocks, also, Extra Selected Flocks and from Blue Ribbon Pens.

Babions Fruit and Poultry Farms
FLINT, R. 7, MICH.

OVIE'S BABY CHICKS

PROFIT MAKERS

Breeders of high egg production, combined with sturdy free-range stock of exhibition quality assures you of fine success with Ovie's Healthy Chicks.

BLOOD TESTED

Tested for White Diarrhea and elimination of infected birds assures Profit Makers. 12 leading money-making breeds. Shipped prepaid and live delivery guaranteed. Write for Big Free Catalog. 80,000 chicks weekly.

OVIE'S POULTRY FARM & HATCHERY
218 Boots Street Marion, Indiana

PURE BRED BABY CHICKS

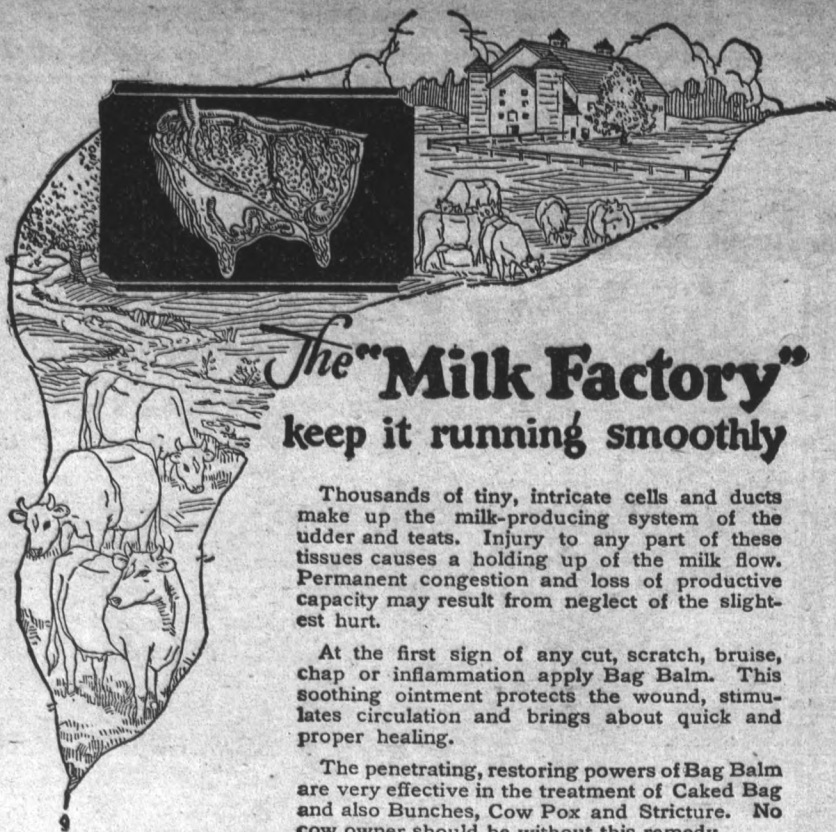
We have been carefully developing our flocks for eight years. Every chick pure-bred and from stock carefully culled, for type and production. Our chicks give satisfaction. Order today and get chicks when you want them.

Wh. Leghorns		\$7.00	\$13.00	\$50.00
Bd. Rocks, R. I. Reds		8.00	15.00	72.00
Wh. Wyandottes		8.50	16.00	77.00

Postpaid. 100 per cent live delivery. You take no chances. Ref. Farmers' & Mechanics' Bank, this city. No catalog. Order from this ad. WASHTE-NAW HATCHERY, R. 5, ANN ARBOR, MICHIGAN.

PURE BRED CHICKS

Real producers. Flocks culled by expert. Beautiful breeding stock. Barred Rocks, R. I. Reds, 50, \$8; 100, \$15; 500, \$72.50. Wh. Leghorns, Anconas, 50, \$7; 100, \$13; 500, \$62.50. Leghorns are Barron stock. None better. 100 per cent live delivery guaranteed. Order from this ad and get chicks when you want them. You take no chances. Ref. McLachlin State Bank, this city. Petersburg Hatchery, Petersburg, Mich.



The "Milk Factory"

keep it running smoothly

Thousands of tiny, intricate cells and ducts make up the milk-producing system of the udder and teats. Injury to any part of these tissues causes a holding up of the milk flow. Permanent congestion and loss of productive capacity may result from neglect of the slightest hurt.

At the first sign of any cut, scratch, bruise, chap or inflammation apply Bag Balm. This soothing ointment protects the wound, stimulates circulation and brings about quick and proper healing.

The penetrating, restoring powers of Bag Balm are very effective in the treatment of Caked Bag and also Bunches, Cow Pox and Stricture. No cow owner should be without this remedy.

Large 10-ounce package, 60c at feed dealers, general stores and druggists. Send for free booklet, "Dairy Wrinkles."

DAIRY ASSOCIATION CO., Inc.,
Lyndonville, Vermont



BAG BALM

MADE BY THE KOW-KARE PEOPLE

HIDES TANNED \$3.50 to \$5.50

Tan Hide and Make Robe Complete, using No. 1 Plush Lining, \$10.00 to \$12.50. All work guaranteed. Write for samples and prices. Badger Robe & Tanning Co., Stevens Point, Wis.

Save Money

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high grade implements
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NEW MOLINE PLOW CO.
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Cured While Working Hard

Troy Chemical Co., Binghamton, N. Y.

Dear Sirs: It certainly is a relief to know a company like yours that can be trusted in these days. I am sure of this because I have found nothing that would compare with your Save-The-Horse and you have never made statement to me but that you could back up. Your book on Horse Diseases is fine, easily understood and specific. Kindly rush my order.

A. L. Talmage, Mt. Carmel, Conn.

SAVE-TH-HORSE

has a record of curing when all hope is given up, extending over 30 years. More than 380,000 satisfied users stand ready to prove this. Guaranteed by signed contract to cure Ringbone, Thoropin, SPAVIN or Shoulder, Knee, Ankle, Hoof or Tendon Disease, or your money refunded. Be prepared! Write today for FREE Save-The-Horse BOOK, telling how to discover and treat any lameness; copies of Guarantee and expert veterinary advice - ALL FREE to horse owners. Always keep a bottle on hand.

TROY CHEMICAL CO.

320 State Street, Binghamton, N. Y.
At Druggists and Dealers
with Signed Contract or sent prepaid.

and Now

Just as the reaper
displaced the scythe
so does modern farm
use demand

a salt that is Quick dissolving!

TODAY we know that salt is not "just salt." Colonial Special Farmers Salt is a soft, porous flake that dissolves instantly and does not lump like ordinary salt.

Compared with the value of the finished product your salt cost is a small item. Cheap salt is a dangerous economy, a single loss will cost you more than the difference in

COLONIAL SPECIAL FARMERS SALT

Colonial Special Farmers Salt beats Block Salt for cattle feeding. It is pure, evaporated Salt—never causes sore tongues or sore mouths—always insures animals getting enough.



price of a whole season's supply of Colonial Special Farmers Salt. Use it and be safe. Colonial Special Farmers Salt is always packed in a branded 70-pound bag. The lined material makes fine toweling.

Send for "Meat Curing and Butter Making on the Farm," a valuable booklet of information.

THE COLONIAL SALT CO., Akron, O.
Chicago, Ill. Pittsburgh, Pa. Boston, Mass. Buffalo, N. Y. Atlanta, Ga.

AVOID MOULDY FEED.

MOULDY feeds are apt to be found at this season, owing to unusual live stock conditions during the fall. It is wise to avoid feeding them to the live stock. Frequently such feeds cause a great deal of trouble, although many kinds of moulds are entirely harmless when given to the stock. It is impossible, with the naked eye, however, to pick out the dangerous kinds.

WHAT THE COW-TESTER TELLS THE FARMER.

A STUDY of the figures published monthly by the cow-testing associations in Van Buren county leads one to believe that the average cow kept on the farms of the association members is not paying much of a profit, for this average cow is producing just about 240 pounds of butter-fat at a feed cost of \$120. This does not leave much of a margin, and remember, this being an average cow there are just as many producing less than 240 pounds as there are producing more. But the association also shows that there is a handsome profit in a herd of good cows.

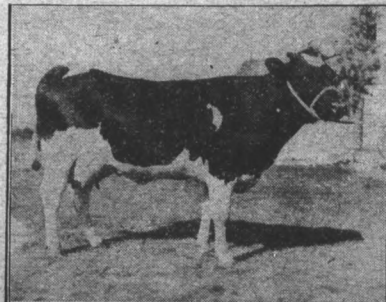
Dr. T. C. Tiedbold, of Covert, has a herd of Holsteins numbering eighteen, of which four are two-year-olds, three are three years old, and the rest mature cows. This herd has made an average record of 567.8 pounds of butter-fat per cow. The highest producing cow has in ten months produced 846.8 pounds of butter-fat and in her tenth month sixty-seven pounds. During these ten months the cost of feed for this cow was \$145.65 and she made a net profit above feed cost of \$429.45, which is more than many herds in the county made. During these same ten months the average profit above feed cost on the eighteen cows in this herd was \$214.31 per head.

Cow-testing records show the profit or loss in the milk game and any member of an association who will make use of this information can build up a profitable herd and every farmer keeping cows as a business proposition should find his way into an association.—E. V. Root.

BELIEVES IN DAIRYING.

OUR experience is that we can better distribute our labor throughout the year by keeping cows than in any other way. By having the cows freshen in the fall the heaviest milking comes during the cold months, thus giving us a paying job every day.

Usually I can get more by selling my alfalfa hay, oats and corn crop to the cows than by drawing them to the market. Furthermore, I can manage to dispose of low grades of hay, and also, in the summer time, much of the grass that grows along the creek and on some waste land, which would make no appeal to the hay buyer. When in connection with these advantages, I figure the good that comes to the farm through the manure remaining to grow bigger crops next year, I do not see how any person, complaining of his lot, can help concluding that he should get into the dairy business.—A. C. Armstrong.



Michigan's junior two-year-old Holstein champion for thirty days is owned by Loeb Farms at Charlevoix. She produced 82,395 pounds of butter-fat and 1,842.2 pounds of milk in that time.

FREE TRIAL

Whether you have one belt or a hundred we want you to try **DETROIT Wire Hook BELT LACING**

at our expense. We will send postage paid, this complete outfit including large box of belt hooks to lace every kind and thickness of belt together with a (Vise Tool) belt lacing machine. If you want the outfit after trying it, send us your check for \$5, if not return it at our expense. Laces belts for one cent an inch.



Detroit Belt Lacer Co., Detroit, Mich.

Try this mixer

Concreting on the farm pays. Put down concrete floors, sidewalks, foundations, etc. with a Kwik-Mix. It turns out a wheelbarrow full of concrete a minute. Do away with the drudgery of mixing by hand. Try a Kwik-Mix Mixer, on 30 days' Trial. You will like it and make extra money concreting for your neighbors. The new Kwik-Mix is the best farm mixer on the market. Works as good as a \$200.00 mixer.

Price Reduced

Pay only \$34.00 after 30 days' use or send \$33.00 with order. Write for free catalog on how to use a Kwik-Mix on the farm. It will pay you to write today.

KWIK-MIX CONCRETE MIXER CO.
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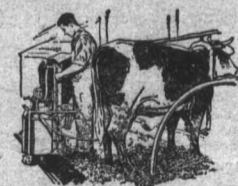
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Complete Milker

\$123!

Nothing to Install No Expense No Bother



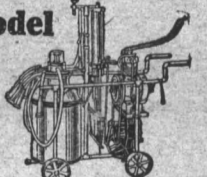
Send coupon below for free book. No electricity—no gas engine. At last!—the milker for the larger dairyman and also for the man with 5 or 6 cows! Does the work and does it right.

RUN BY HAND

Comes complete and ready to use—no installation. Simple ultra-sanitary, easy to operate, so easy to clean. Tremendous improvement in machine milking. Only \$123—think of it! Special Offer—rock-bottom price direct.

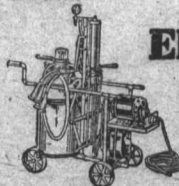
Gas Engine Model

A Portable 2-cow and 3-cow gas engine milker that does everything the big, elaborate power milkers can do, in one complete, compact, unit—and at a mere fraction of the cost. No trappings, no fittings, simple, just what the farmer wants!



Electric Model

For the farmer who has electricity, here's a Portable 2 and 3-cow milker. One sixth horse power runs it. Can be run from the battery of an ordinary light plant without starting engine. Utmost simplicity; utmost service.



30 Days FREE Trial

No C.O.D.—no deposit—no obligation. You try it and your word goes! If not satisfactory, returnable at our expense after 60 milkings—if satisfactory, pay cash or

Easy Monthly Payments. We'll make that milker pay for itself every day as it goes along. Most liberal milking machine offer ever made!

FREE Book!

Let us send you our free catalog. It's full of important facts—an education in milking machines. Learn how to get the greatest milking service at the lowest cost. Learn also how you are completely protected in giving our machine a trial on your own herd. Send the coupon today.

BURTON PAGE CO., 661 West Lake Street, Dept. 4702, Chicago, Ill.

Please send me your free booklet containing the facts of milking machines and full details of your 30 day free trial, easy payment offer on the Portable Page Milker models checked: ☐ Gas Engine Power ☐ Electric Power

Better because simpler; astounding rock bottom price because they're simpler.

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Address _____

Also send me your Agents Offer ☐

Please Mention The Michigan Farmer
When Writing to Advertisers

SATISFIED MILKERS.

ONE of the dairyman's difficult jobs is to keep his milkers satisfied. He can usually secure men for the fields and other work, but the men who take the milk from the cows change often, and generally are not the experienced men they should be.

One eastern dairyman has instituted a system which is giving such excellent satisfaction that the other men have their applications in for milking as soon as one of the milkers drops out.

This man keeps around seventy cows. Two men do all the milking, but nothing else. They only draw the milk and weigh it. All the other stable work is done by other hands, even to the brushing off of the cows.

These two men work five hours in the morning and five hours in the afternoon. They start milking at two o'clock in the morning, finishing that milking, and then start on the cows in the same order at two o'clock in the afternoon and complete their task at seven in the evening.

This arrangement gives to the men all the time from seven in the morning to two in the afternoon to do whatever they wish—read, sleep, play, ride or what not. Although the men work ten hours each day their time is so divided that they prefer to do milking than the other work on the farm.

HELPS BUILD BETTER HERDS.

(Continued from page 165). results of the association work in 1923 is that of "Old Guernsey," owned by Dan Rousch, of Fremont, who offered her for sale in 1922 to the butcher for five cents per pound, who fortunately refused her, and in 1923 she produced 12,318 pounds of milk and 540.4 pounds of butter-fat, at a profit above cost of feed of \$158.04, and also gave birth to three calves during that time.

We believe that the above facts, all of which can be substantiated by records, should prove beyond a doubt that the cow-testing association work of Newaygo county has been an important asset to the dairymen of the county, and we are glad to report that as the result of the recent dairy and alfalfa campaign the indications are that we will see organized two additional associations in the county during the year 1924.

We feel that the association has been very fortunate in having had the services of Mr. Shisler during the past two years, and a good deal of credit is due him for the success of the association during that time. We regret very much that he will not be with us during the coming year, owing to the fact that he has accepted a position as tester in the state of Virginia, but we wish him success in his new field and the dairymen of that state are to be congratulated in securing the services of a man of his caliber.

PRESIDENT MAKES APPOINTMENTS.

PRESIDENT COOLIDGE has decided to appoint George B. Christian, who was President Harding's secretary, as a successor to Victor Murdock on the federal trade commission. The resignation of Mr. Murdock becomes effective February 1.

It is also given out that President Coolidge will appoint J. R. Howard, of Iowa, ex-president of the American Farm Bureau Federation, as a member of the United States Shipping Board, succeeding Edward P. Farley, Chicago.

Now is the time when farm folks should get together and sing. It not infrequently happens that an individual and a community will sing themselves out of despair and destitution to liberty and power, like the little country of Denmark did a quarter of a century ago.

Railroading in Winter

Especially in Michigan, Railroad transportation is subject to sudden periods of extreme cold and heavy snow. Such weather lowers the efficiency of steam-driven machinery, imposes severe hardships on men, and makes necessary abnormal expenditures for fuel, wages and special equipment.

To vanquish these obstacles—to accept and deliver freight and passengers in the teeth of a midwinter blizzard, when necessary—is an annual battle for each of Michigan's 24 steam Railroads.

Even in a comparatively open winter, the Railroads must always be equipped and ready. On certain northern runs, a snow plow precedes every train throughout the winter, regardless of weather.

Winter railroading in Michigan is seldom possible at a profit. Often it can be accomplished only by large financial loss. Yet, despite the handicaps of climate, the cars move, and Michigan continues warm, well fed and prosperous.

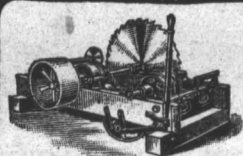
Do you appreciate the foresight, determination and fortitude which, year in and year out, make Railroad transportation so sound a reliance. The Railroads will be pleased and helped to know that you do.

Michigan Railroad Association

508 Railway Exchange Bldg., Detroit, Mich.



"We Serve Michigan"



SAW YOUR OWN LUMBER
with a Howell Portable Saw Mill. Turn your standing timber into high price building lumber at the mere cost of sawing. Big demand for lumber, bath and shingles. Keep your engine busy the year round making **Big Money In Custom Sawing** for your neighbors. Howell saw mills are made in several sizes suitable for tractors of any size. Also Edgers, Planers, Lath and Shingle machines. Write for free Catalog, E-8.
R. R. HOWELL & CO., Mfrs. Minneapolis, Minn.

PLANS FOR POULTRY HOUSES!
All styles. 50 illustrations. Secret of getting winter eggs, and copy of "The Full Egg Basket" sent 25 cents.
INLAND POULTRY JOURNAL, Dept. 60, Indianapolis, Ind.

POULTRY

Why Not

Insure your income. Buy your chicks from good Egg-bred stock. **ENGLISH WHITE LEGHORNS, MOTTLED ANCONAS.** Chicks that are hatched right and priced reasonable. Customer reports pullets laying at 4½ mo. old and laying all winter. All breeders are culled for health and egg-production. 100 per cent good live chicks Guaranteed. Write for free catalogue and prices. **QUALITY HATCHERY, Lock Box 42, Zeeland, Michigan.**

S. C. WHITE LEGHORNS



You can have chicks from these high-grade, egg-producing Leghorns, and they have 13 years of careful selecting and breeding direct back of them, and they will be producing eggs at 5 to 6 and one-half months of age. You benefit by our many years of experience in hatching and shipping chicks, for they mature in the shortest possible time. 100 per cent safe arrival guaranteed. Let us mail you our 32-page catalogue with price list. **WOLVERINE HATCHERY, Zeeland, Mich., R. 2, Box 20.**

Baby Chicks \$12.00 per 100 and up. We are listing 12 varieties of pure-bred fowls, chickens, ducks and guineas. Send for prices and circulars. **Clinton Hatchery & Poultry Farms, Wilmington, Ohio.**



BETTER CHICKS MORE OF THEM

Barred Rocks, 50, \$8; 100, \$15; 500, \$72.50. Anconas, 50, \$7.50; 100, \$14; 500, \$67.50. White Leghorns, 50, \$6.50; 100, \$12; 500, \$57.50. Chicks from well-culled, vigorous, high-producing, free range flocks. Order direct from this ad, and avoid disappointment. Prompt Delivery. Our 9th year. Good Reference. **DILIGENT HATCHERY, Route 11 Holland, Mich.**

Wishbone Hatched CHICKS

The finest day-olds money can buy. Strong, big, from free-range stock. All popular varieties. Shipped by parcel post. Write for moderate price list.

Wolf's Hatchery, R. 11, Holland, Mich.



RELIABLE CHICKS

S. C. English White Leghorns and Barred Rocks. Every chick from carefully mated, culled, pure-bred flocks owned and developed by us for 15 years. Leghorn males from prices. **RELIABLE HATCHERY AND FARMS, 74 E. 16th St., Holland, Mich.**



QUALITY CHICKS

Strong, vigorous, pure-bred. From heavy-laying, English strain of S. C. White Leghorns—the kind that are big winter layers. Shipped postpaid. 100 per cent live delivery guaranteed. Low prices. Lake Bluff Hatchery, RFD 1, Holland, Mich.

C-H-I-C-K-S

Exhibition and utility strains from America's best. W. and Barred Rocks, W. and Brown Leghorns, Reds, Wyandottes. Reasonable prices, quality considered. 14 years' hatchery experience. Catalog. **HAIGHT HATCHERY, Cedar Springs, Mich.**

STURDY CHICKS

From high grade, heavy egg producing strains of S. C. White Leghorns, S. C. Rhode Island Whites and White Wyandottes. All from pure bred, healthy, vigorous stock, carefully culled and tested to insure your getting chicks that will be easy to raise, develop rapidly and become heavy winter layers. Shipped postpaid, 100% live delivery guaranteed. Catalog Free. **COLUMBIA HATCHERY, HOLLAND, MICH.**



SUPREME CHICKS

LAYERS! That's what you want. Standard Chicks are from just that kind of flocks. Our strain of **Supreme Laying White Leghorns** is the result of our many years experience, breeding and selection. They are large sized, long deep wedge shaped bodies, keen alert eyes, large lopped combs. The kind you will be proud of and eventually buy. Shipped postpaid. 100% Live delivery guaranteed. Illustrated catalog sent Free. **STANDARD HATCHERY, Box A, Zeeland, Mich.**



Chicks with Pep

Try our lively and vigorous chicks from bred-to-lay and exhibition hens. They will make you money for they have the quality and egg-laying habit bred into them. A trial will convince you.

All leading varieties. Safe delivery. Prepaid. Prices right. Bank reference. Big, illustrated catalog free. **Holgate Chick Hatchery, Box M, Holgate, Ohio**

Leghorn B-A-B-Y---C-H-I-X Heavies

Black, Brown, Buff, White, Brahmans and Orpingtons. Anconas and Minorcas. Reds, Rocks, Wyandottes. Allegan Hatchery on Highway No. 89. Send for 1924 price list. **Crescent Egg Company, Allegan, Mich.**



WEBER'S BEST laying, BEST scold & turkey. Fine pure-bred quality. Fowls, Eggs, Incubators at new low prices. 42 years poultry experience, and my 100 page Catalog and Breeders' Guide Free. **W.A. Weber, Box 79, Mankato, Minn.**

MICHIGAN FARMER
Classified Liners bring results. They cost little.

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

Brookwood Farm

Registered Guernseys of both sexes for sale at reasonable prices. Young stock from A. R. dams. Herd is Federal A-accredited.

JOHN ENDICOTT, Owner
BIRMINGHAM, MICH.

10 Reg. Guernsey cows, some A. R. Record May Rose breeding, \$2,000 for all; herd bull \$100. John Ebbels, Holland, Mich., R. 2.

Reg. Guernseys Two Nice Bulls, nearly ready for service. Special terms if desired. J. M. Williams, North Adams, Mich.

A Great Opportunity.

We are offering a young Holstein bull ready for service, by a 32.03-10, son of Matador Segis Walker, a brother to Segis Pieterje Prospect, the World's Champion. The dam is sired by a 35.73-lb. bull, King Segis-blood. Also some fine heifers for sale. HILLCREST FARM, KALAMAZOO, MICH.

Registered Holstein Bulls

Up to eleven months of age. Good individuals and good breeding, at low prices. Also a few young cows or heifers soon to freshen. A healthy herd. I. M. SHORMAN, Fowlerville, Mich.

Maplecrest Holsteins

FOR SALE—Two Registered Holstein Heifers. Born last May. Beautifully marked, fine individuals, whose sire is from a 30-lb. daughter of a 31-lb. cow. Also one fresh 2-year-old heifer, and one bred heifer, fine individuals. Whitney Bros., Onondaga, Mich.

Holstein Bull Calf Nearly white, sire by a 30-lb. Bull, dam 65 lbs. 4 per cent milk, milked twice per day. Ask breeding, etc. \$40, registered. B. E. Kies, Hillsdale, Mich.

FOR SALE Jersey bulls ready for service. All cows Registered. Merit. Accredited herd. Would take a bankable note. SMITH AND PARKER, R. 4, Howell, Mich.

Brookwater Jerseys

Bull calves for sale. Majesty breeding. Herd tuberculosis free. Come or write. Brookwater Farm, Ann Arbor, Mich.

FINANCIAL KING BULLS

We have for sale a few bulls ready for service, also bull calves, sired by Financial King Sensation, son of Financial Sensation, the \$60,000 sire. These bulls are from R. of M. cows. Write to Coldwater Jersey Farm, Coldwater, Mich.

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

15 Cows, 4 bulls from R. of M. Cows. Chance to select from herd of 70. Some fresh, others bred for fall freshening. Colon C. Lillie, Coopersville, Mich.



HEREFORDS

Registered Breeding cattle, T.B. Tested at practical prices for production of Hereford Baby Bees profitably, all ages. **T. F. B. SOTHAM & SONS** (Herefords since 1839) St. Clair, Mich.

Thumb Hereford Breeders' Association can supply your needs with outstanding, well-bred registered Herefords, either sexes, polled or horned at reasonable prices. Inquire of E. E. TWING, Sec-Treas., Bad Axe, Huron Co., Mich.

4000 High-Grade Herefords \$90 each, on free, fenced 200-000-acre range; positively droughtless; separate winter range, abundant water and feed. Homestead. Hagan's, Clifton, Arizona.

Stanway Bred Herefords

Breeding stock, either sex, for sale. Come and see them. **JOS. FELDPAUSCH**, Fowler, Clinton Co., Michigan.

HEREFORDS

Bulls, Heifers and Cows with Calves by side. Most popular strains. **Allen Bros.**, 616 S. Westnedge St., Kalamazoo, Mich.

Two Reg. and T. B. tested Shorthorn bulls for sale, 9 and 14 mo. old. Price \$75 each. J. A. CRAIG, Stockbridge, Michigan.

Combination Sale Duroc Jerseys

Feb. 11th 1924, Fair Grounds, Hillsdale, Mich.

Forty head of sows and gilts carrying the blood of Orion Cherry King, Joe Orion II, Jack's Friend, Walt's Top Col, and other noted sires.

Six head won six places at State Fair; at Hillsdale Co. Fair, 5 Firsts, 4 Seconds, 3 Thirds and 3 Champions.

The boars these sows are bred to are Double Ideal, a State Fair Winner and sire of winners.

Sensation's Masterpiece, 1st prize boar pig at Hillsdale, an outstanding grandson of Sensation Leader, Sensation Lad, one of the best western-bred boars sent east. Write for descriptive catalog.

H. F. Cramton
Osseo, Mich.

H. B. Kelley,
Hillsdale, Mich.

W. H. Schroy
Prattville, Mich.

Auctioneers: Andy Adams, A Banty Huber, J. I. Post

BIDWELL SHORTHORNS

Revolution Jr. 573938 heads accredited herd 28917. Now offering 2 January roan bull calves of exceptional merit, reasonably priced. BIDWELL STOCK FARM, Box D, Tecumseh, Mich.

Wildwood Farm Milking Shorthorns. An accredited herd bred for beef and milk. Headed by King Sales, grandson of Glenside Dairy King. Fresh cows and heifers priced reasonably. Visitors welcome. Beland & Beland, Tecumseh, Mich. Paved Road No. 50.

When In Need of Red Polled Bulls, Cows or Heifers. Buy from Michigan's leading herd, owned by Westbrook Bros., Ionia, Mich.

For Polled Shorthorns Milk strain, either sex. Paul Quack, Sault Ste. Marie, Mich.

RED POLLED CATTLE Males and Females Large Yorkshire Swine. E. S. CARR, Homer, Mich.

HOGS

Duroc Jerseys Sows

Bred and open Sows of the finest practical type. Farrowed April 15 to May 15, 1923. Long, well-rounded body. Send for description and photos.

Fred Vreeland writes: "I am pleased with the Sows and assure you that they are satisfactory in every respect."

Every shipment guaranteed to be satisfactory. STATE FARMS ASSOCIATION, Masonic Temple, Kalamazoo, Michigan.

Registered Durocs

FOR SALE—Young boars and gilts bred from the best herds in Michigan and Ohio, at reasonable prices and fully guaranteed. W. E. Bartley, Alma, Mich.

DISPERSION SALE

Michigan Farm is disposing of its entire herd. Sows and gilts bred to a great son of Supreme Col. Fall boars and gilts. All registered in your name. Prices are very attractive—hogs more so. Come or write. Michigan Farm, Pavilion, 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. F. J. Drott, Monroe, Mich. R. 1

Duroc Jerseys Bred Sows and Gilts, \$25 to \$40 each. Fall pigs, \$12. All Reg. and guaranteed. Walt's Top Col. breeding. None better. Write us. Jesse Bliss & Son, Henderson, Mich.

Duroc fall and spring boars of the best breeding and quality, at prices to sell. Fall pigs at bargain prices. W. C. Taylor, Milan, Mich.

Duroc Jerseys and Delaine Merinos CAREY U. EDMONDS. Hastings, Mich.

Chester Spring boars from prize winning stock, will ship on approval. Cholera Immuned. Fred L. Bodimer, Reese, Mich.

Chester Whites Gilts. Bred for Spring Farrowing. Aldrich & Williams, Tekonsha, Mich.

O. I. C.'s 25 choice young boars for fall service. Clover Leaf Stock Farm, Monroe, Mich.

O. I. C.'s 75 spring pigs, pairs not akin, from 3 good sires, also fall pigs, recorded free. Otto Schulze & Sons, Nashville, Mich.

O. I. C.'s Sept. pigs. Sired by "Giant Boy," Senior Champion at West. Mich. State Fair, 1923; Milo H. Peterson, R. 2, Ionia, Mich. "Elmhurst Farm."

25 Reg. O. I. C. Sows, Bred for April and May Farrow. All Stock Shipped on Approval. Priced Right. Fred W. Kennedy, R. 2, Plymouth, Mich.

L. T. P. C. Bred Gilts out of the most popular blood lines. They have always made good and will again. Write your wants, also for plan of selling. M. M. PATRICK, Grand Ledge, Mich.

BIG T. P. C. Aug. and Sept. pigs sired by our herd boars, \$10.00 up. Also 2 herd boars at \$75 each. Winter sale Feb. 20, 1924. Order quick for choice. E. A. CLARK, St. Louis, Mich.

L. T. P. C. Boars and Gilts all go at private treaty. Service to Foxy Clansman, \$40. Michigan Champion herd for 3 years. A. A. Feldkamp, Manchester, Mich.

Large Type Poland Chinas

Boars \$25 each. Satisfaction guaranteed, all stock shipped on approval. Bred Sow Sale Jan. 30. DORUS HOVER, Akron, Mich.

Big Type Chester White bred sows and gilts. Sired by and bred to State Fair Lucian Hill, Tekonsha, Mich.

Fall Pigs either sex, by the great Boar, The Wolverine. Priced reasonable. Best of dams. W. E. Livingston, Parma, Mich.

Hampshires Sows and gilts, a choice lot, bred to big Franklin P. First year we have offered sows bred to him. His pigs sell. Sept. pigs, pairs not akin. Get my terms. Dr. Cribbs, Three Rivers, Mich.

Hampshires Spring Boars and Gilts, and fall pigs. Pairs not akin; 11th year. 150 to select from. John W. Snyder, St. Johns, Mich., R. 4.

Hampshires Of Best Blood Lines; 100 Bred Gilts and Sows, some fine Boars. Luckhard's Model Farm, Bach, Mich.



BABY BEEVES NET \$9.00 EACH.

JOSEPH FELDPAUSCH lives on a rich level farm near the little town of Fowler, in Clinton county. For a few years past he has been raising Hereford cattle. He recently shipped a bunch of calves consisting of four steers and four heifers, to the Detroit Packing Company, which sold for twelve cents per pound. These calves were about fifteen months old and after all expenses of marketing were paid, Mr. Feldpausch had left \$89.00 apiece for them. Considering that these calves were the tail ends of the season's crop—the best of them having been reserved for breeding purposes—Mr. Feldpausch says, "I think that was good and we didn't do any milking to get it."—Pope.

A LITTLE FEED, A LITTLE LABOR, RETURN GOOD PROFITS.

THERE is a horse that I would give \$200 for," said a well-known dealer who is shipping to the eastern markets, "if he were in good flesh and short-haired. As it is, I dare not pay more than \$140 for him, and even at that I take a chance of losing money. Long-haired, thin horses are much more susceptible to disease, must be held in our stables for some time until they get in better condition, and the risk and expense, and the fact that they are not salable until they are in better flesh, makes a horse of that kind less desirable to me at \$140 than the same horse would be at \$200, if he were in fit condition."

Other dealers corroborated his statement and added that while it was unprofitable to put feed into a \$50 horse, it would certainly pay to put thirty days' feed and some grooming on horses weighing 1,500 pounds or over. Twelve quarts of oats per day, plus plenty of good forage and a little oil meal (say one-half teacupful at each feeding time with the oats), will put horses in very much improved condition for sale in thirty days' time, if they are kept in clean stalls, well bedded, and given a thorough grooming every day.

Fifteen dollars' worth of feed per horse, plus some work, will make from \$50 to \$60 difference in the selling price in any good horses that are to be sold this spring; and while horses are a by-product of the farm, it is worth while having such by-products in fit condition to bring top price.

PIG SURVEY.

THE pig survey taken by rural mail carriers throughout United States on December 1 shows some very interesting comparisons between different sections of the country, says V. H. Church, agricultural statistician for Michigan. The report indicates that there was an increase of 4.7 per cent in the number of sows farrowing in the fall of 1923, as compared with the previous fall, and a decrease of 10.6 per cent as compared with last spring. Wisconsin and North Dakota were the only other corn belt states reporting an increase compared with one year ago. For the corn belt as a whole the number is 6.1 per cent less than one year ago, and 43.6 per cent less than last spring. The number of pigs saved in the fall of 1923 in Michigan is 5.8 greater than in the previous fall and 9.8 per cent less than last spring. For the corn belt, the number saved is 3.8 per cent less than one year ago, and 43.1 per cent less than last spring. A decrease of 2.0 per cent in numbers of sows bred, or intended to be bred for spring farrowing in 1924 in the state, and 5.4 per cent in the corn belt is also shown. The average num-

ber of pigs saved per litter last fall in the state was 6.0 as compared with 5.8 last spring and 5.9 the previous fall. The corresponding figures for the entire corn belt were 5.02, 4.93 and 4.90 per cent. Experience with previous surveys has shown that actual farrowings have fallen considerably short of expressed intentions.

The decline in production and tendency for a further decrease is due to the lower prices that have prevailed for some time, and the relatively better price of corn. Receipts of hogs at stock yards during the last few months have been the heaviest in many years.

SPOTTED POLAND BREEDERS TO FORM STATE ASSOCIATION.

ON Monday, February 4, of Farmers' Week, the Spotted Poland breeders of Michigan are planning to hold a meeting for the purpose of organizing a State Association of Spotted Poland Breeders. This meeting will be held in Room 110 of the Agricultural Building, Michigan Agricultural College, East Lansing, and will begin at ten o'clock in the forenoon.

All of the swine breeding associations are meeting on Monday and all join together at three o'clock in a meeting of the Swine Breeders' Association in Room 402, Agricultural Building.

GROWS PRIME BEEF.

(Continued from page 139).

ertheless, if the dollars and cents do not balance on the favorable side of the ledger, some of these other worthwhile things are going to suffer. So, as I said before, we went to the house to look up the records. We give herewith a brief but very accurate statement of the way the enterprise stacks up.

Here are the maintenance costs of cow herd for the year. Feeds grown are figured at farm value:

55 tons alfalfa hay.....	\$ 550.00
100 tons silage	400.00
180 acres pasture, interest on value and taxes	369.00
Veterinary fees, insurance, interest, taxes, service fees, equipment, depreciation and incidentals	510.40
Total	\$1,829.40

The average cost per cow for maintenance

What pasture the calves consumed is included in the charge made to the cow herd. They were self-fed in addition, from the time they learned to eat grain until marketed, a mixture of ground feed made up of corn, oats, barley and cottonseed meal, and worth at the farm \$1.25 per cwt. Charged to the calves we find:

86,194 pounds ground feed....	\$1,077.42
15 tons of alfalfa hay.....	150.00
10 tons of silage.....	40.00

Total cost feeding calves..\$1,267.42
All other costs charged to the cow herd

Total cost of raising and feeding baby beeves, forty-four head

The net returns at the farm, all selling and transportation charges deducted, are as follows:

16 head sold for breeding....	\$1,935.00
22 head sold as baby beeves..	1,895.72
6 head retained	600.00

Total net returns.....\$4,430.72
Less total costs

Profits
In view of the fact that most of the feed was raised on the farm, and that general farm conditions have not been flourishing, Mr. Ramsey feels very well pleased with the results of his venture as they appear to date.

Proper use of the straw stack often saves much investment of capital in costly buildings.

Steel Jackets

For Large Iron Kettles

We will make you a heavily re-inforced jacket to fit your kettle, provided with large fire door, flue, handles, pipe. Price according to size. Send measurement of kettle around outside one inch from top. If kettle has flange, measure under it. Ask for chart of standard sizes.



Heesen Stock Feed Cookers

For cooking stock food, scalding hogs, rendering lard, etc. Handiest article on farm. Famous for years. Seven sizes. Write for folder and prices.

Heesen Bros. & Co.
Dept. 1
Tucumseh, Michigan

California Fruit

Now Grown in the Northwest

It is now easy to grow a California orchard in your own back yard with BRAND'S Wonder Northern Grown Nursery Stock, including all of the best of the Delicious New Fruits produced by the Minnesota State Fruit Breeding Farm.

57 Years of Success. Minnesota's Oldest Nursery.

Beta and Alpha Grapes, the two best and hardiest ever produced. Hardy in Manitoba. Haroldson Apple, large and fine flavor. Monitor, Redwing, Golden Rod, and Underwood Plums, simply delicious. Zumbro Cherry, large-path Red Raspberries, the two most wonderful raspberries ever produced.

FREE CATALOG tells all about Brand's wonder-bearing fruit trees, berries, grapes and Northern grown nursery stock.

Brand Nursery Co.,
Box 18
Faribault, Minn.



How to Make Money Raising Foxes

If you get the right start, fox raising will pay you enormous profits—they are almost unbelievable. We show you how—we start you right. On a small investment you can start on the road to fortune.

THE BIG SECRET OF SUCCESS in the fox raising business is getting the right foundation stock from reliable breeders. We have the finest stock in the country—animals with show records—Don't take chances—get your foundation stock from us and be on the safe side. Let us start you right. Write today for full particulars.

DeLuxe Silver Fox Ranch, Manistee, Mich

SAVE YOUR MAPLE TREES

Earn money by making maple syrup. Great demand for quality product.

CHAMPION EVAPORATOR

Produces finest quality. Saves time, fuel and labor. Pays for itself in a couple of seasons—lasts for many years.

Sap Spouts, Tanks, Full Line of Sugar Maker's Supplies.

Champion Evaporator Co., Hudson, Ohio



Cantaloupe Growing Pays

Diversify your farming in a profitable way; raise what the public wants and will pay high prices for. The GOLDEN CHAMPAIN is the world's most profitable market melon—Earliest, best flavor, biggest yielder. Write for proof and full information, mentioning D-3.

H. J. Walrath & Sons, R.1, Conneaut, Ohio

NORTHERN GROWN FRUIT TREES

Small fruit plants. Grape vines. Ornamental trees, and shrubs of all kinds. Established a third of a century. Send for Catalog.

T.B. West & Sons, Maple Bend Nursery
Lock Box 142, Perry, Ohio



GROW HUCKLEBERRIES

New, Heavy-Yielding—Producing fruit first year from seed. Bears all summer and fall—berries large as grapes. Easily cultivated same as tomatoes. Makes delicious pies, jellies, sauce. Large pkg. 10c, Mammoth pkg. 25c, postpaid.

NEW CATALOG FREE. WRITE! GRISWOLD SEED & NURSERY CO., 241 So. 10th St., Lincoln, Nebr.

EXCAVATORS for DIGGING

MARL

S. O. NAFZIGER
Box 434, Kalamazoo, Mich.



CATTLE



Champion Sylvia Skylark

YOUR OPPORTUNITY To Buy This Good Heifer

THIS heifer, bred in the purple, is, on her sire's side, a great grand-daughter of the world's champion milk cow, May Echo Sylvia; while her dam is a fourteen-pound, two-year-old daughter of Utility Segis Hengerveld Lad, the sire of many show animals, and himself the son of a four times thirty-pound cow.

The People's Church of East Lansing, which serves the students of the M. A. C., and hence has all Michigan for its Parish, owns this heifer, it having been given to the church by Corey J. Spencer, of Jackson, to aid in financing the construction of a new church edifice.

The Heifer is now being fitted for the Holstein Sale to be held at the Agricultural College, Monday Afternoon, February 4.

The Highest bidder will do two things—put this valuable heifer in his herd, and aid in building this much-needed and worthwhile church building.

Forty other females and three males will be sold at the same sale. Every lover of good Holsteins will be eager to attend. But whatever you do, don't overlook this double-barreled opportunity on February 4 at East Lansing.

What Is Your Herd Average?

The average production of 830 cows and heifers of all ages in Michigan State Institution herds last year was 9,207 lbs., nearly two and one-half times the average annual production of the cows of the state.

Increase your herd average by using a sire from one of these herds. Write for sale list.

Bureau of Animal Industry,
Department C
Lansing, Michigan

SHEEP

Registered Hampshire Ewes

I have for sale a few registered Hampshire ewes, all ages, bred for last of April and first of May lambs to an excellent heavy breed good woolled and short legged ram. A First Prize winner. C. U. Haire, Boyne City, Mich.

Choice Bred Ewes

400 for sale in ewlets, yearlings to solid mouths, black-faced, in good condition, bred to lamb April 10th. Located 25 miles south of Detroit on Detroit & Toledo Electric, and on Dixie Highway. Telegraph Address, Rockwood, Phone Newport. Post Office, South Rockwood. ALMOND B. CHAPMAN & SON.

Shropshire Rams and Ewes

write of call on Dan Booher, R. 4, Evart, Mich

SHROPSHIRE—Am offering 10 young ewes of Butter and Senator Bibby blood lines for \$20 each. C. J. Thompson, Rockford, Mich.

Shorthorn SHOW and SALE

by Michigan Shorthorn Breeders' Association
at Michigan Agr'l. College, East Lansing, Mich.

Friday, Feb. 8, 1924

Show 9:00 A. M. Sale 11:00 A. M.

48 Females 14 Bulls

CONSIGNORS:

H. B. Peters & Son, Carland, Mich.
Carr Brothers & Co., Bad Axe, Mich.
John Lessiter's Sons, Clarks-ton, Mich.
S. H. Pangborn, Bad Axe, Mich.
McLachlan Brothers, Evart, Mich.
Michigan Agr'l. College, East Lansing, Mich.
L. C. Kelly & Son, Plymouth, Mich.
G. H. Parkhurst, Armada, Mich.

Every animal guaranteed tuberculin tested, and sold subject to 60 days' retest.

The BEST BREEDERS in MICHIGAN are contributing to this sale. Several animals are out of STRONG SHOW HERDS. A few were shown at the 1923 International.

A number of each of the following POPULAR FAMILIES are offered: Rosewood, Augusta, Mina, Rosemary, Village Maid, Orange Blossom, Claret, Nonpareil, Miss Ramsden, Lovely. Many are sired by GRAND CHAMPION BULLS.

This is an Outstanding Opportunity to get Show Animals of Best Blood Lines

Auctioneers: Carey M. Jones Dr. J. P. Hutton

Write for Catalogue

W. E. JUDSON EDWARDS, Mgr.,
EAST LANSING, MICH.

The Important Trade Event In The Shorthorn Breeders' Year!

Seventh National Shorthorn Congress SHOW and SALE

200 Head—155 females 45 bulls—200 Head

of high-class Shorthorns to be shown Tuesday, February 19th and sold Wednesday and Thursday, February 20th and 21st, 1924, at the International Amphitheatre, Chicago, Illinois.

The banquet at which an interesting program will be presented will be held Tuesday evening.

A rare opportunity for buyers to make selections and purchases of top Shorthorns from the country's best herds, collected at a convenient central point.

Unusual attractions are in store for the buyer of Shorthorns at this Congress. Consignments are already in from the country's leading herds, insuring well-bred cattle of outstanding individual merit.

This is the logical time for Shorthorn breeders to cash non-producers, cattle of plainer breeding, and those requiring segregation, and replace them with a few high-class, well-bred foundation breeding Shorthorns.

Be sure and write for catalog.

AMERICAN SHORTHORN BREEDERS' ASSN.,
13 Dexter Park Avenue, Chicago, Illinois

KEEP THE BOYS ON THE FARM

By planting Pure-bred Poland China hogs on it. Poland China aged boars outweighed aged boars of every breed at the recent National Swine Show, and one other breed by 374 pounds. They were heavier than every other breed in every class, even junior sows, March pigs, weighing 83 pounds more than those of one other breed. A Poland China barrow holds the record for dressing the highest percentage, .92, of edible meat. Poland Chinas hold the record for average weight in ton-litter contests. The heaviest single pig in 1923 contests weighed 364.5 at 180 days of age. They are the farmer's hog. Poland Chinas are prolific, profitable, interest the boys and keep them contented on the farm. Resthaven Farm has Poland Chinas, any number, any age, to offer the beginner or the veteran. They sell recorded in the buyer's name, vaccinated against cholera, and guaranteed satisfactory or we refund your money. Catalogue free.

RESTHAVEN FARM,

Box 310,

TROY, OHIO

EVERGREENS Hill's Hardy Tested Varieties

Fine for windbreaks, hedges and lawn planting. All hardy, vigorous and well rooted. We ship everywhere. Write for free Evergreen book. Beautiful Evergreen Trees at moderate prices. E. Hill Nursery Co., Box 230, Dundee, Ill.

Agricultural Lime High Calcium. Either lump or hydrated. Also spraying lime in wooden or steel barrels or paper sacks. Price mailed on request. NORTHERN LIME & STONE Co., Potoskey, Mich.



THE LATEST MARKET REPORTS



GRAIN QUOTATIONS

Wednesday, January 30.

Wheat.

Detroit.—No. 1 red \$1.15½; No. 2 red \$1.14½; No. 3 red \$1.11½; No. 2 white \$1.15½; No. 2 mixed \$1.14½.
Chicago.—May at \$1.10½@1.10½; July at \$1.08½@1.09; September at \$1.08½.

Toledo.—Cash \$1.15@1.15½.

Corn.

Detroit.—Cash No. 3 yellow at 85c; No. 4 yellow 83c; No. 5, 78@79c; No. 6, 75@76c.

Chicago.—May 79½@79½c; July at 79½@80c; September 80½c.

Oats.

Detroit.—Cash No. 2 white at 53c; No. 3, 51½c.

Chicago.—May at 48½c; July 45½c; September 43½c.

Rye.

Detroit.—Cash No. 2, 74c.
Chicago.—May 73½c; July 74½c.
Toledo.—74c.

Barley.

Barley, malting 76c; feeding 72c.

Buckwheat.

Buckwheat.—New milling \$2 cwt.

Beans.

Detroit.—Immediate and prompt shipments \$5 per cwt.

New York.—Choice pea \$5.75@6; red kidneys \$7.25@7.35.

Chicago.—Choice pea \$5.30; red kidneys \$7.30.

Seeds.

Detroit.—Prime red clover cash at \$12.85; alsike \$8.80; timothy \$3.95.

Hay.

Strong.—No. 1 timothy \$23.50@24; standard and light mixed \$22.50@23; No. 2 timothy \$21@22; No. 1 clover at \$20.50@21; No. 1 clover mixed \$20.50@21; wheat and oat straw \$11.50@12; rye straw \$12.50@13.

Feeds.

Bran \$35; standard middlings \$35; fine do \$36; cracked corn \$39; coarse cornmeal \$36; chop \$35 per ton in 100-lb. sacks.

Apples.

Chicago.—Barrels, "A" grade Greenings at \$6; Jonathans at \$5; Grimes \$3.50@3.75; Spies \$4.50@5.50; Kings \$4.50@5; Baldwins \$4@4.50; Spitzenberg \$4@4.50.

WHEAT

Although there has been a fair volume of trading, prices have kept close to the recently established basis. While Liverpool indicated strength at the close of last week, reports have it that French buyers cancelled some recent orders. Argentine and Australia have shipped liberally. The clearances from North America, on the other hand, were somewhat reduced last week. The buying power is generally quickly satisfied, and any show of strength too quickly disappears for those who have wheat to sell.

CORN

Receipts of corn were running a little stronger last week; reports indicated more liberal purchasing in feeding sections. Cash markets, however, were easy, with the demand for spot goods a little less active. Prices are but little changed.

OATS

This grain was left off last Saturday following active profit-taking by holders. The trade was also influenced by liquidation in corn. However, commission houses came to the support, buying in on the breaks. Receipts have been only moderate, with a fairly active cash demand.

RYE

This product has continued to be a close companion of wheat following the changes in the market for the major grain to a nicety.

FEEDS

An undertone of firmness prevails in the market for mill feeds. The demand, however, is somewhat quiet, giving the trade a slightly easier feeling than otherwise would obtain. No change of consequence has occurred in local prices.

HAY

While the statistical position of the hay trade favors a firm tone, some of the markets are being supplied to a point where the recent strong feeling has eased off. Local prices, however, remain steady.

BEANS

Further advances have taken place in bean quotations. Receipts have been comparatively light, farmers hav-

ing held a considerable portion of their crop in farm granaries, waiting for better prices. The situation in New York shows improvement and transactions are being made at slightly higher figures. Chicago reports a steady market on light receipts and a fair demand.

BUTTER

The trend of the butter trade the past week has been upward. At some points interrupted transportation accounted for a little of this strong influence. However, tradesmen hold that the higher figures are here to stay for a short time at least, basing their predictions upon the supply and demand a short time, at least, basing their prediction. At Chicago extra creameries 92-score, are bringing 52c; 90 to 91-score 50½@51½c; firsts 48½@49½c. New York prices are: Above score 52½@53c; extra creamery 52c; firsts 50@51c. In Detroit best fresh creamery in tubs 50@51c; storage 48@50c.

POULTRY AND EGGS

With the supply of eggs increasing even the recent cold wave snaps were not sufficient to stop the gradual downward tendency in prices. The business is, however, in a fair way, due to a healthy consumption. At Chicago fresh firsts were bringing 41@41½c; ordinary 37@38c. The New York trade is holding fresh gathered extras at 48@50c; do. firsts 45@47c. Detroit quotes fresh current receipts at 41½@42½c; storage 27@28c.

The poultry is steady and unchanged in Chicago and in New York young stock has a firm course. This was also true of turkeys, ducks and geese. Small chickens and broilers are in a

strong way. The demand for chickens is active at Detroit and prices are firm.

POTATOES

The weather has been an important factor in the potato markets during the past week. Very few shipments have been made because of impassable roads and cold weather. The markets generally have been steady, with the demand fair and the prices unchanged. At Grand Rapids the Russet Rurals were bringing \$1.12@1.25 per 100 lbs. In Wisconsin, sacked round whites were bringing \$1.10@1.15 at shipping points. Minnesota Triumphs were being sold for \$1.15 per 100 pounds by shippers' associations.

APPLES

The demand at Chicago for boxed apples was good, but that for barreled stock was light. The market is getting firmer, Michigan grade A barrels of Spies were selling for \$5.50@6; Jonathans and Greenings \$5@5.50; Baldwins \$4.50@5. Boxed stock from the west was selling from \$3@3.25 for Delicious, to \$1.85@2 for Rome Beauties, all fancy stuff in bushel boxes.

DETROIT CITY MARKET

Apples, fancy, \$2@2.25 bu; No. 1, \$1.25@1.75 bu; beets \$1.50@1.75 a bu; cabbage \$1.50@1.75 bu; carrots \$1.50@2 bu; celery 50@75c dozen; parsley 50c@\$1 dozen, \$1.75@2 bu; potatoes 85c@\$1 bu; radishes 70c@\$1 dozen bunches; turnips \$1.25@1.50 bu; parsnips \$1.50@1.75 bu; horseradish \$3.50@5 bu; bagas \$1.25 bu; kale 75c bu; eggs, retail 50@70c dozen; old hens, wholesale 28c lb; retail 30c lb; springers, wholesale 25c lb; retail 30c lb.

Live Stock Market Service

Wednesday, January 30.

DETROIT

Cattle.

Receipts 499. Good grades are slow; others steady.

Good to choice yearlings \$9.50@10.00
Best heavy steers 8.00@8.50
Handyweight butchers 7.00@8.00
Mixed steers and heifers 6.00@6.50
Handy light butchers 4.50@5.50
Light butchers 4.00@4.50
Best cows 5.00@6.00
Butcher cows 4.00@5.00
Cutters 3.00@3.50
Canners 2.50@3.00
Choice bulls 5.50@6.00
Bologna bulls 4.50@5.50
Stockers 5.75@6.00
Feeders 5.50@6.25
Stockers 5.25@6.00
Milkers 45@75

Veal Calves.

Receipts 180. Market strong.
Best 15.50@16.00
Others 6.00@14.00

Sheep and Lambs.

Receipts 1,783. Market 25c lower.
Best lambs 14.00
Light to common 7.00@9.75
Fair 11.50@12.75
Fair to good sheep 5.50@8.00
Culls and common 1.50@3.00

Hogs.

Receipts 3,913. Market is 15@20c lower.
Mixed 7.20@7.30
Pigs 6.25
Roughs 5.90
Yorkers 7.00

CHICAGO

Hogs.

Receipts 42,000. Market fairly active. Mostly 10@20c lower than yesterday's close. Bulk of good and choice 250 to 325-lb. butchers \$7; bulk of good 150 to 225-lb. average \$6.85@6.95; better grades 150 to 170-lb. average, mostly at \$6.60@6.80; packing sows largely \$6.25@6.40; killing pigs steady to strong; bulk better grades strong weights at \$5.50@5.75.

Cattle.

Receipts 10,000. Market on better grades of beef steady to strong; desirable yearlings strong; top yearlings \$11; some mixed steers and heifers at that price. Larger beef steers, fat she stock steady to weak. Bulls strong. Vealers 50c lower. Shippers and stockers at \$14; packers \$11.50@12.

Sheep and Lambs.

Receipts 7,000. Market is active. Fat woolled lambs mostly 25c higher; sheep steady; feeding lambs strong to 25c higher; bulk of good to choice fat

GRAND RAPIDS

This city was virtually "fresh eggless" early this week. Drifting snows blocked many country highways last week and the railroads furnished the only means of delivering eggs. Inland points were caught with stocks on their floors and about the only way they could get them to market was to haul by sleigh to the nearest railway station. The short supply had its effect on prices, which ranged from 35@38c per dozen. The poultry market was steady at 18@20c a pound bid for live fowls. Weather conditions also influenced the markets on potatoes, beans, hay and buckwheat. Growers able to sell potatoes at 65c per bushel, and paying prices for beans advanced to \$4.35 with some country elevators paying \$4.50 per cwt. No. 1 timothy hay was firm at \$23 a ton, and buckwheat was strong at \$1.75 per cwt. Dressed pork was firm at 10c a pound. Calfskins advanced one cent a pound to 10@12c a pound.

COMING LIVE STOCK SALES.

Holsteins.

Feb. 4.—Michigan State Holstein Association, East Lansing, Mich.

Shorthorns.

Feb. 8.—Michigan Shorthorn Breeders' Association, East Lansing.

February 19-21—American Shorthorn Breeders' Association, J. L. Tormey, Secretary, 13 Dexter Park Avenue, Chicago, Ills.

Durocs.

Feb. 20.—Detroit Creamery Farm, Mt. Clemens, Mich.

February 11—H. F. Cramton, H. B. Kelley and W. H. Schroy, Hillsdale Fair Grounds.

Poland Chinas.

Feb. 5.—Detroit Creamery Farm, Mt. Clemens, Mich.

Feb. 20.—E. A. Clark, St. Louis, Mich.

Chester Whites.

March 6.—Alexander & Bodimer, Vass.

A CALL TO ORGANIZE FINE WOOL SHEEP MEN.

BELIEVING that the fine wool sheep industry can be greatly benefited by an organization of the breeders of this class of sheep, it is desired that all who can possibly do so meet at the Michigan Agricultural College, Wednesday morning, February 6, during Farmers' Week, for conference and organization.

GRAND CHAMPION

BIG TYPE

POLAND CHINA SALE

At the

Detroit Creamery Farms

Mt. Clemens, Mich.

Tuesday, February 5th

We will sell the greatest lot of yearling sows and gilts ever offered in this state, bred to

THE PROFITEER

Grand Champion of Ohio and Indiana

ELVETRAN REVELATION

Junior Champion of Michigan

BLA K WATCH

The Greatest Son Of the Mighty PIONEER

Don't miss this opportunity to add one of these Grand Matrons to your herd
Write TODAY for one of our catalogs, address

DETROIT CREAMERY FARMS

HOG DIVISION

A.A. Schultz, Supt.

Mt. Clemens, Mich.

BOLENS POWER HOE
and Lawn Mower Tractor

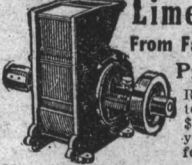


It seeds, it cultivates, it mows the lawn. It supplies power for operating light machinery. The BOLENS has a patented arching axle for clearance and a toll control for accurate guidance in close weeding and cultivating. A differential drive makes turning easy. All attachments have snap hinges and are instantly interchangeable. A boy will run it with delight. Send for full particulars. 315 PARK ST., GILSON MFG. CO. PORT WASHINGTON, WIS.

FREE MEAT CURING BOOK

To learn the best methods of curing meat, write to E. H. Wright Co., 843 Broadway, Kansas City, Mo., and get absolutely free a new \$1 Book, "Meat Production on the Farm", which tells all about meat curing. Free to farmers only. Send name today.

Limestone Pulverizer
From Factory to Farmer \$250



Price two Ton \$250
Reasonable terms. Capacity two tons per hour. Also three ton \$295.00. Why pay more when you can buy direct. Write us for free literature.

Knoxville Pulverizer Co. Knoxville, Tenn.

HEAVES Use 2 large cans. Cost \$2.50. Money back if not satisfied. One can at \$1.25 often sufficient. NEWTON'S Compound for Worm Expelling, Conditioning, Heaves, Indigestion, Distemper, Coughs, 65c and \$1.25 cans. At dealers or post-paid. The NEWTON REMEDY CO., Toledo, Ohio

WANTED
Produce Eggs and Poultry
Consignments solicited, returns made daily. Send for tags, stamps and stencils.

SCHULMAN, SOROKA & CO.
24-158 Commerce St., Newark, N. J.

High-Test Chemical For Indoor Closets
Direct From Manufacturer \$1.50 per gal.
Double the strength of ordinary Chemical, one gallon lasts 6 months. Works in any style toilet. Special price on quantities of from 3 to 10 gallons. Dealers wanted everywhere.

SANITARY PRODUCTS CO.,
501 Division Ave. S., Grand Rapids, Mich.

Patents—Trademarks—Copyrights
Write for free Guide Books. List of Patent Buyers and "Record of Invention Blank" before disclosing inventions. Send model or sketch and description of your invention for our free opinion of its patentable nature. Highest references. Terms reasonable.

VICTOR J. EVANS & CO.
610 Victor Building, Washington, D. C.

Patents
Write today for free instruction book and Record of Invention Blank. Send sketch or model for personal opinion. CLARENCE A. O'BRIEN, Registered Patent Lawyer, 65-C Security Savings & Com'l Bank Bldg., directly across St. from Patent Office, Wash., D. C.

Ship Your Hay and Grain to the OLD RE LIABLE HOUSE
GEO. E. ROGERS & CO., Pittsburgh, Pa.

Wrestling Book FREE
Be an expert wrestler. Learn at home by mail. Wonderful lessons prepared by world champions Farmer Burns and Frank Gotch. Free book tells you how. Secret holds, blocks and tricks revealed. Don't delay. Be strong, healthy, big men with ease. Write for free book. State age. Farmer Burns School, 4709 Railway Bldg., Omaha, Neb.

Get Healthy, Vigorous Sure-to-Grow Plants
State-inspected. Cumberland, Kansas. Plum Farmer, Columbian, Champion, Big Joe Krampton, Premier, Gibson, Concord Grape Plants. Remember, Larson's Plants for Quality, Low Prices. Free folder. H. F. LARSON'S NURSERY, Sawyer, Mich.

FREE GRAPE PLANTS—with order of Strawberry and Raspberry Everbearing plants. Concord Grape Plants, \$30.00 per 1000, all state-inspected and guaranteed. Free booklet. **WESTHAUSER'S NURSERY**, Sawyer, Michigan.

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 3 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 orders.

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

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

GLADIOLUS BULBS—Order now for April 1st delivery. Mixed colors, \$5.00 per 100. Enjoy flowers all summer. George Hunter, 412 Evergreen Ave., East Lansing, Michigan.

SWEET CLOVER, ALFALFA, SOYBEANS, ETC.
Priced right. Inoculating Bacteria for bushel any legume, 60c postpaid. E. E. BASIL, LATTY, OHIO.

Certified Michigan Grown June & Mammoth Clover, \$13 per bu.
Eaton Rapids, Crane & Crane.

Oat Read's Green Mountain. New. Out-yields others. Rec. 130 bus. to acre. Absolutely rust proof. No smut. Catalog free. G. A. Read, Charlotte, Vt.

FARMS AND FARM LANDS FOR SALE

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.

110-Acre Michigan Farm with 11 Cattle, Horses, Automobile
Furniture, hogs, poultry, full implements, tools, beans, potatoes, hay, oats, straw, winter's wood, etc.; on improved road; near R.R. town; 90 acres loamy tillage, 15-cow pasture, woodland, 300-free bearing apple orchard, 40 cherries, acre grapes and berries; excellent 3-room house, furnace; overlooking beautiful river; 76-ft. barn, silo. Owner left alone cannot operate, all only \$6,300 if taken now. Part cash. Details page 35. Illus. Catalog Bargains—many states. Copy free. **STROUT FARM AGENCY**, 205BC, Kresge Bldg., Detroit, Mich.

Buy a Virginia Farm Now Now is the time to buy a farm in Virginia. Prices are reasonable. You can grow fine crops of corn, all grain and grass crops. Types of soil especially adapted to fruit growing. Opportunities for live stock and dairying unexcelled. Virginia offers more advantages to the farmer than any other state—variety of soil, mild winters, long growing season. Why farm where you can grow only two or three crops and be far away from good markets, when you can grow a variety of crops in Virginia and be near the great consuming markets. The healthiest climate in America, free from disastrous storms. Write now for Hand Book, Maps, etc.
G. W. Keiner, Commissioner of Agric., Richmond, Va.

FOR SALE or EXCHANGE
Eight hundred eighty (880) acres of land, partly cut over, in Sanborn township, Alpena County. This land is free and clear and is in one parcel, one-half (1/2) mile from the D. & M. Railroad, and on highway known as M-10. Considerable timber left, and the land itself is above the average for this section.
CITY SUBURBAN REALTY COMPANY, 615 Oakland Building, Lansing, Michigan.

For Sale A Splendid Dairy Farm
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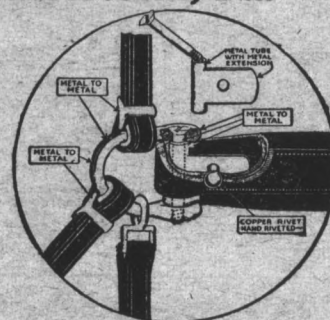
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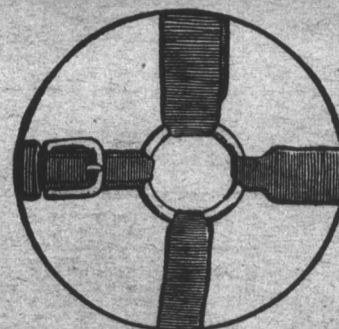
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