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VOLUME CLVIX NUMBER TEN

DETROIT, SEPTEMBER 2, 1922

CURRENT COMMENT

THE MICHIGAN FARMER SAYS:

Droughts evaporate, many farm profits as well as moisture.

Sheep ticks are a nuisance, but a tick of the clock means some valuable time is gone forever.

There isn't a thing the sun shines upon but what casts a shadow. But if you will face the right way you will see the sun and not the shadow, is the suggestion of an optimist.

It takes many of us a life time to learn how to live. Many others "flunk" when it comes to life's final test because we tried to get through without learning.

It is wise to observe speed limits in farming as well as on the road. But so many farm "engines" are hitting on only one cylinder, so it is impossible to speed them up to get to Good Crops by the end of the season.

Improving Farming Methods

IMPROVEMENT in methods of manufacturing to better the quality of the product and lower its labor cost has been very marked in this country during recent years. Successful efforts along this line have been largely responsible for the unparalleled industrial development of our country during the past decade. "Quantity production" is a much used term which has been the key to success in the development of economic manufacturing methods.

There has also been a very noticeable improvement in farming methods within a generation, and even in the last decade. Naturally this change in farming methods has not been as rapid as the change in manufacturing methods, and for obvious reasons. Farm production units are much smaller than manufacturing units. There are nearly 200,000 farms in this state, as compared with 8,000 factories, in round numbers. The man power of the average factory is more than a hundred times as great as that of the average farm, hence economy of labor is naturally given more consideration and can be made the subject of more costly experimentation.

But economy of labor is not more important in the factory than on the farm. Under present conditions it is relatively less important. There is

need for our farmers to take a lesson from our manufacturers in this regard, and make a careful study of labor economy in connection with the operation of their farms. And this study should be made in connection with the possibilities of quantity production along some one line, with side lines carefully planned to distribute labor employment throughout the year. Just the other day we heard two progressive farmers discussing the possibilities of economizing labor in the harvesting and marketing of the potato crop, which was the factor of quantity production on their farms. This discussion related to the possibility of saving labor by sorting and sacking the crop at digging time, thus eliminating a future expensive handling. Various methods were discussed, some of which will doubtless be tried out by these farmers, not only to their advantage, but to the possible advantage of their neighbors if they watch the result of these experiments.

This is but one of innumerable examples which could be cited to illustrate the possibilities in developing improved methods of accomplishing farm work. Farmers have done a great deal along this line in recent years, as evidenced by a maintenance of production with decreasing man power on the farms. There is opportunity for far greater improvement along the same line as a means of increasing the net revenue from the farms of our state. We are too prone to view economic production as a means to the end of increased production and lower prices for our products, rather than in terms of increased wages for the labor expended by farm owners in producing them.

The American Diet

WE have plenty of evidences of the saying, "Tell me what you eat and I'll tell you what you are." Especially has the farmer had demonstrations of this in his live stock and poultry feeding. But we seldom think of this phrase from a national standpoint.

Other nations will undoubtedly not dispute us when we say that America is the best fed nation on earth. Neither will they argue the statement that America is the most industrious, energetic and intellectual nation existing. And we believe that credit is due the farmer in cooperation with the nation's great transportation and distributing system, for the feeding of ingenuity and industry into the American people.

We are a better nation today than we were yesterday. We are also better fed; our diet has greater variety. For instance, in 1919 our railroads hauled 20,000,000 tons of fruits and vegetables, or sufficient to furnish each man, woman and child with two and one-half pounds per day. In 1899 the tonnage was only 4,582,573. In other words, the tonnage of 1919 was 430 per cent of 1899, while the population was only 140 per cent of the latter period.

Inasmuch as this factor is undoubtedly the basis of all American achievement, is not this achievement of American agriculture and distribution worthy of pride and comment?

The Trend Toward Recreation

WE have had plenty of evidences in the city that this age is recognizing the value of play. Schools now have gymnasiums and swimming pools as necessary parts of their educational equipment. Churches, too, have added them for use in their work for religious and social advancement. Practically all cities provide playgrounds and small parks for the recreation of those in the crowded sections.

With business men golf seems almost an essential part of their business activities; while at baseball games, grandfathers and grandmothers are seen as enthusiastic as the vigorous youth.

But not alone in the cities has the value of these recreations been recognized. In rural sections tours have taken the place of meetings, and endurance tests for listeners to long programs have been replaced by amateur baseball games, horseshoe pitching and other athletic games. Camps and hikes which teach by doing rather than by listening are prevalent among young folks.

This tendency toward recreation is a step toward greater sanity for it means a better balanced living. It means a better view of life and its problems. All work and no play makes Jim an old man, as well as Jack a dull boy.

It is truly a welcome change when it is not a crime for father and mother at fifty to act like twenty and "to go like sixty" if they want to. How much more enjoyable it is to do this than to go through certain stages of ossification formerly required for the various ages. This may well be called the age of youth.

Recent Strike Developments

WHILE the developments of the past week have not settled the strike situation so far as the railroads and the hard coal mines are concerned, there is a greater feeling of optimism regarding the possibility of a general tieup of railroad transportation and a more general belief that there will be a settlement of the railroad strike in some sections and that it will gradually wear itself out in other sections without a really serious interruption of business. It is believed that the announcement of pending shut-downs of manufacturing plants, due to a shortage of available coal, will have a salutary effect in the adjustment of the situation. There is also evidence of strong government pressure looking toward the resumption of work in the anthracite coal mines at an early date, which will prove reassuring to millions of domestic users with empty coal bins. While congress cannot be expected to take the initiative in the passage of remedial legislation at this session, that body will undoubtedly back up the administration by granting the President such powers as he and his associates in the administrative department of the government may believe necessary to aid them in averting a serious industrial crisis at this time.

In any event there is every reason for the maintenance of optimism on the part of Michigan farmers, who are in an especially favorable situation in having a wide variety of products to market and exceptionally good home markets in which to sell them. There will be some hardships, particularly in the marketing of highly perishable products, which may be unavoidable, and there are likely to be some unfavorable market reactions resulting from the uncertainty of the situation, but these disturbances should, for the reasons above noted, appear at their minimum in this state.

The Little Boy's Little Calf

IT is said that it takes little things to start big ones. Small acorns have grown to many a big oak. A lantern started the Chicago fire. A thought of freedom started the United States. A slight push has been the downfall of many a man; a little boost has helped as many others toward success. In farming we have little boosters who have by their examples shown many the way to success. These are

boys and girls working out their projects in the various activities of club work throughout the country.

We have a good illustration in Washington county, Colorado, of how their example helps progress. There the little boys' little calves have been the cause of twenty-six pure-bred herds of dairy cattle being started on as many farms because the boy of the family became interested in the local calf club. There are 126 pure-breds in these herds that would not have been there had it not been for the boy. And now in many cases these herds are owned jointly by Dad & Son.

The least that can be said for the club work in general is that it has changed the entire attitude of many boys and girls on farm life and life in general. For this reason, we need not fear the future of farming, because the widespread influence of club work assures us that it will be in good hands. And what is just as important is that it is rapidly changing the attitude of the present day farmers on the value of pure-bred live stock and improved farming methods.

May we not conclude that these little boys are going to be the big men in farming, and that their little calves are going to be big factors in the rapid development of profitable dairying?

Strikes

SEEMS like strikes is popular things now days. For inst. there's men what will go to a baseball game and yell their heads off to see the pitcher make the other fellow strike-out. Likewise there's men what make it their business to go around the country yellin' their heads off tryin' to make other people strike-out, and sometimes they succeed.



And because they sometimes do it, it looks like I'm goin' to get most of my winter's coal outa the wood lot. I think you kin come around any time

this winter and see me saw 'cause I'll be keepin' warm tryin' to get stuff to keep warm with.

I've been powerful busy the last few days cuttin' up rails to get somethin' to do our threshin' with. It just makes me feel like threshin' somebody, but it's kinda hard for me to find out whose the one to thresh.

Now, it seems to me that the man what is at work don't like to strike-out any more'n the man what is at bat 'cause strikin' out is a losein' game no matter where you do it. And the innocent bystanders don't like it neither 'cause there's lots more fun in a hit and run game.

When you strike-out you don't hit the object your aimin' at. You spend a lot of energy tryin' to do somethin' you can't succeed in doin'. To produce results you gotta meet the issue fairly and squarely and you gotta treat your opponents in what you call a sportsmanlike way. And that's the kind of game the innocent by-standers like.

Now, it's human nature to be selfish, even in baseball and we feel glad if we kin get the umpire to call it somethin' it wasn't. So, it kinda seems to me that the big trouble with this industrial game is that they ain't got no good umpires. Seems like they got to get somebody what is fair and square to tell whether the fellow is struck out or ought to have his base on balls.

I've just been thinkin' I'll try to get a job umpirin' the home games 'cause some day maybe they will want me to umpire some of these industrial affairs and there's nothin' like bein' in practice.

HY SYCKLE

The Diamonds of the Fur Industry

The Raising of Black Silver Foxes is an Established and Profitable Industry

By Edwy B. Reid

MICHIGAN is the real home of the silver fox in the United States. It contains more ranches and more foxes than any other state. Their value runs into the millions of dollars, and during the last three months it has practically doubled through the annual increase in pups. The industry is now so important in the state that a breeders' association has been formed and it was successful in bringing to Muskegon, last December, the second Annual Silver Fox Show where more than \$500,000 worth of the silver-black beauties were exhibited. It has also demanded and obtained the services of specialists in parasitic diseases, who are at work at the Michigan Agricultural College.

Millions Invested In Foxes

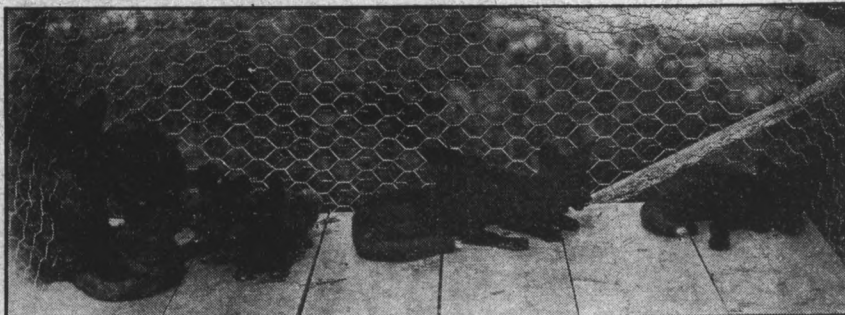
"The fox farming industry in the United States now represents an investment of approximately \$8,000,000 counting animals and ranches," stated Frank Ashbrook, expert of the U. S. Department of Agriculture. "And you will find ranches scattered through almost every northern state from Maine to Washington. We estimate that there are at least 500 ranches containing about 12,000 to 15,000 foxes in captivity. The reason for this remarkable growth is found in the rapid decrease in our supply of wild animals within the last two decades; the extraordinary price which silver foxes have brought and the ready sale of the breeding stock and pelts.

"In spite of the large number of foxes now confined in pens, the indus-

try is new, developing rapidly within the last ten years. The keeping of fur bearing animals is different than ordinary farming, for the fur bearers are not domesticated. To be sure, on some of the ranches a few foxes are sufficiently tame so they will eat meat

subject and the parasites which inhabit them. It also involves a knowledge of pelts, the requirements of the markets, value, the methods of taking the pelts and disposing of them to best advantage.

"I have found many of the owners



These \$1,000 Babies Were All Produced In a Single Litter

out of the keeper's hand, but on the majority of ranches they slink out of sight like black and silver shadows upon the approach of either the keeper or a visitor.

Is Fox Raising a Successful and Profitable Business?

"I am often asked whether fox farming requires any particular ability or knowledge and my invariable reply is that to make a success one should know the habits of the animals, what they eat, how they should be fed, the different properties of feed supplied, and the diseases to which foxes are

of the ranches rather reticent, not desiring to put down on paper all of the information which they have regarding feeding, breeding, disease and other problems. This reticence, however, has been largely overcome in recent years with the formation in this country of the American Silver Fox Breeders' Association and the National Silver Fox Breeders' Association of America.

"To date the raising of foxes in the United States has been largely for breeding purposes. These Associations were organized for the purpose of

providing the breeders with records and improving the stock, but they are also interested in the upbuilding of the industry. In Canada, where the industry is much older, many of the fox ranches are operated on a strictly pelt basis; that is, the foxes are raised so that the pelt may be taken for the market. The average price obtained for pelts last year, when prices were low, ranged from \$300 to \$350. The best fox pelt sold for a little over \$600. These average prices, however, do not represent the average value of the foxes produced for, of course, the majority of ranches are still producing foxes to be sold for breeding purposes and pelt only the culls or non-breeders. Skins of an exceptional quality have brought from \$1,500 to \$2,500. The pelts in greatest demand or those showing a high degree of quality and finish—the extra dark full furred skin with a good thick underfur supporting a goodly number of rich silky guard hairs. The tail must be reasonably long and carry a white tip. Quality in fur is a governing factor the same as in jewelry and all other things of personal adornment. Size is of little consequence where quality is present."

The Boom Days of the Industry

The early history of fox farmers of Prince Edward Island is fraught with frenzied fiancé, breeding stock selling as high as \$34,000 a pair, and individual furs or pelts selling as high as \$2,700. It reads like a romance.

As soon as fur producing profits (Continued on page 244)

Michigan's Crop Achievements

Are Shown by Her Repeated Winnings at the International Hay and Grain Shows

By H. C. Rather

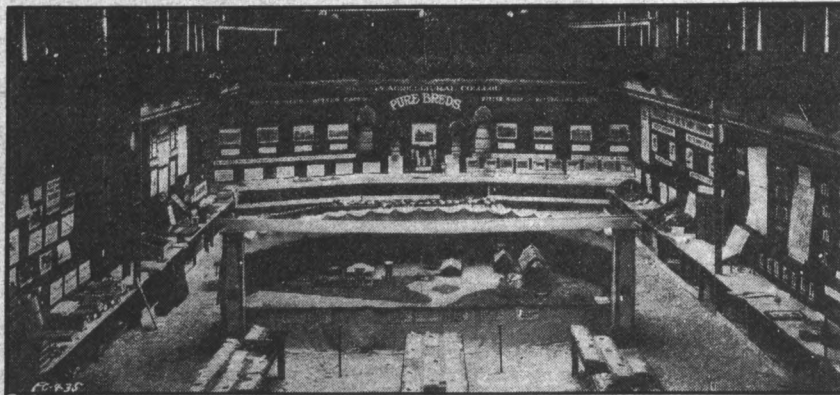
WHEN at the first International Grain and Hay Show, held at Chicago in December, 1919, Michigan farmers took more than two-thirds of the places in rye and soft red winter wheat and made a remarkable showing in other classes. Wisacres said 'twas an accident. When in 1920 those farmers went back and duplicated the feat the word passed around that it was a mere coincidence, but when in 1921 Michigan products returned with greater triumphs than ever, the aforesaid gentlemen scratched their heads and calculated that the performance was becoming a fixed habit.

Sixty out of a possible 76 places in rye, 31 out of a possible 70 on soft red winter wheat, additional firsts in yellow corn, white wheat and timothy hay, and numerous places of high merit in barley, oats, corn, soybeans, clover, alfalfa and other classes, is a three-year record of which Michigan growers are justly proud.

Just now the interest of the Michigan grower, however, is not centered in retrospect. He is looking ahead to a bigger and better showing than ever for 1922. Already the Hutzlers, Mr. Beck and Mrs. Johnson, and her son of South Manitou, are vying with each other to see who is to bring added prestige to the already internationally famous island grown Rosen Rye. Sedgwick and Horton, of Parma, among the first to grow the variety; Farley Bros., of Albion; Berridge, of Greenville; Starr, of Grass Lake, and Cornair, of Chesaning; Arbogast, of Union City, along with 25 or 30 others say they are going to make the rye class a big one, while Gormley, Dunbar and others in the U. P. are rising to remark that the North still can kick

through with quality second to nobody as witness their record at Chicago in '19 and '20.

C. D. Finkbeiner, of Clinton, twice winner of second place with his Red Rock Wheat, gets his morning exercise on the business end of the fanning mill handle these days and he says,



The 1922 Show of the Michigan Crop Improvement Association

"It's first this time for me or I'll eat the screenings for breakfast food." Vietengruber, of Frankenmuth; Jewett, of Mason, and MacVean, of Allegan, equally industrious with the screens and blower, vow that C. D. will have some breakfast.

"Count me in on the corn" is the word from Charley Laughlin, and Charley is looking for a mate to that Sweepstakes medal which he won in 1920. "I am after one of them, too," says Bow, of Saginaw, and his neighbors, Johnson, Geddes and Kueffner, also have collections over the clock shelf and they're planning additions.

Skiver, a new exhibitor from Birch Run, led the way at the Crop Improvement Show last winter with an elegant sample of Manchu soybeans, and he is out for bigger game this year. Bill Blue, of Homer; Gifford Patch and Lewis Bros., of Clarklake; Coy, of Mason, and others, are pre-

pared to show Michigan's prominence with this valuable legume.

One needn't be at all surprised if Olaf Nelson, of Cheboygan County, and L. L. Lawrence, of Decatur, aren't stepping right out with the one, two, three ones in alfalfa seed with some of the new Hardigan, and there are a lot of the men in the State who never have entered before that are unlimbering, making ready to send in seed or grain and take away their share of the \$10,000 premium list.

More than that, however, is the prestige to the grower and the State for quality seed. It was no less a per-

sonage than Dean G. I. Christie, Superintendent of the International Grain and Hay Show, who remarked last winter that the whole country recognized Michigan's achievements in Crop Improvement. That this is having concrete results is borne out by the fact that a large percentage of the early orders for seed rye this year are coming from other states, and the Michigan Crop Improvement Association, the organization that fosters the growing and keeping pure of Michigan Pedigreed Seeds, has for the past two seasons experienced greater demand for seed, both locally and from out of the State, than her growers were able to supply.

Back of it all, of course, is the work in plant development by the Michigan Agricultural College. More than 95% of Michigan winners and a goodly portion of those from neighboring states, have been varieties developed by the Farm Crops Department at M. A. C. That part is invaluable. But the farmers themselves with their Crop Improvement Association and its rigid self-applied rules of purity, quality, and vitality, are really making the plant-breeding work of the College broadly and permanently effective.

The International Grain and Hay Show is North America's rallying point for the elite of the crops world. It is to grains and seeds what the Livestock Exposition, held at the same time, is to the livestock industry. A winning there gives the grower international prominence and an international market for his products and Michigan farmers are not slow to take advantage of this most helpful asset to their business of producing and marketing quality seed.

LATE AGRICULTURAL NEWS

McCOOL HEADS LIME CONFERENCE.

IN recognition of the extensive lime investigations carried on by the soils department, at M. A. C., Dr. M. M. McCool, professor of soils, has been invited to preside over a three-day lime conference to be held at the University of Tennessee at Knoxville, Sept. 11-13, under the auspices of the American Association of Agronomy. Prof. L. E. Call, of Kansas Agricultural College, who is president of the association, will be unable to attend, and Dr. McCool will fill his place.

Twenty-three states will be represented at the conference, which is the first national meeting of its kind to be held. As soils of the country become more and more depleted, the need for lime increases and the realization of its place in soil rebuilding is felt more and more, according to Dr. McCool. At the Knoxville meeting he will present results of experiments carried on in Michigan by himself in collaboration with Dr. George Bouyoucos and C. H. Spurway.—Hen.

BABY BEEF SHOW AT STATE FAIR.

POSSIBILITIES of baby beef production in Michigan to supply the Detroit market will be stressed in the exhibit of beef cattle to be shown at the Michigan State Fair, Sept. 1-10, by the animal husbandry department of M. A. C., under the direction of Prof. George A. Brown.

The exhibit has been planned to show correct type rather than merely to win prizes. Three animals in particular will illustrate what may be done in production of baby beef. They are the Hereford steer Autocrat, weighing 830 pounds at 10 months; Brandon's Best, a 11-month-old Aberdeen Angus steer, weighing 863 pounds; and a 11-year-old Shorthorn steer, weighing 812 pounds. The last named shows ideal beef type and conformation, although he is not pure bred.

Eleven animals in all will be shown in the beef cattle exhibit. Several of them have taken prizes at the International Livestock Show at Chicago, notably Blackbird Brandon II, senior Aberdeen Angus sire, who as a yearling, won second prize; Plumb, Square and Level, a junior herd sire, who took first prize and was junior champion as a calf at the Michigan State Fair two years ago and who took fourth prize at the International in 1921.

That Detroit meat dealers are compelled to import young beef from other states when it might be supplied by Michigan stock growers is pointed out by Prof. Brown. The college exhibit therefore is in the nature of a lesson showing what may be accomplished.—Hen.

FOR CLEANER CLOVER

ONE of the undertakings of the Farm Crops Department, of M. A. C., is to cooperate with the clover seed growers in the production of weed-free clover seed. The larger clover growers have made an organized effort in this work to rid their fields of weeds. In cases where the weeds were not very bad, they were cut out during the growing season. But in other places where they were more prevalent, the weedy patch was avoided at the cutting time.

Prof. Cox, of the Farm Crops Department, says that the market is always stronger for weed-free seed. In the past this sort of seed has been produced by eliminating the weed

seed by machinery. This greatly adds to the cost of the product. In the past the presence of sticky cockle and thistles in many Michigan clover fields has greatly lowered the value of the seed. Through this organized effort the growers will eliminate weeds from their fields, and thus produce a high quality product at a minimum of cost.

WILL POTATOES PROVE UP?

THAT those who are expecting this year's potato crop in Michigan to prove a bumper one should not count their chickens before they emerge from the shell is the warning issued by research workers in the botany department of the M. A. C. experiment station. Specimens of potato plants affected by late blight have already been received, and unless the proper measures are taken in time, this deadly parasitic disease is almost certain to ravage many of the northern counties of the state, it is said.

Cold, wet weather such as has prevailed during the early part of this summer in many sections is leading to the spread of the blight, points out Dr. G. H. Coons, plant pathologist. In both 1912 and 1915 large crops of potatoes were in prospect, but in both seasons the blight cut the total product to a fraction of the anticipated amount. Hence Dr. Coons raises the question, "Will the 36,000,000 bushel crop be harvested and will it be worth harvesting?"

Thorough spraying with Bordeaux mixture is the remedy advised by the M. A. C. specialist. Applications of 100 gallons to the acre should be made every 10 days, beginning when the plants are from 6 to 10 inches high.

It is necessary to spray oftener in cold, wet weather. When even a little blight has been present in a field, it is advisable to delay digging where soil conditions permit until the tops are dead and dry, in order to prevent infection of the tubers at digging time.—H.

COOPERATIVE ASSOCIATION BUYS NEW BUILDING

THE Saginaw Cooperative Marketing Association, consisting of 144 farmers in the territory surrounding Saginaw, have bought the A. W. Wright office building in that city as a site for a grain elevator and a co-operative marketing store. This is a two-story building which has river frontage. The store and office in it will be opened in a few weeks, and a grain elevator will be erected at the rear of the building at a later date. This association was organized last November with the aid of the Saginaw County Farm Bureau. It entered the seed and fertilizer business late in February and since then has done approximately \$15,000 worth of business.

PHEASANTS INTRODUCED IN U. P.

THE Calumet Sportsmen's Club has received from the State Game Farm, near Mason, 88 hens and 12 roosters of the Chinese ring-neck pheasant for breeding purposes. The birds have been released in Keweenaw County in the vicinity of farms, the farmers having agreed to feed the birds until they have become accustomed to their new environment. The clubmen will provide the grain for this purpose during the first year.

This is the first introduction of the pheasant in this section, according to the "Calumet News." Owing to the close resemblance between the pheasant and the partridge, especially of the females, the Calumet club will post notices during the coming partridge season calling attention to the need of hunters' discriminating between the two species. The pheasant is hardy and it is believed that it will be able to exist in the north country during the winter. Its appetite for weed seeds and noxious insects should recommend it to the farmer, it is claimed. It is predicted that the pheasant and native partridge will eventually cross.

A similar consignment of pheasants was received in Marquette County, late in July, and distributed. The birds were about three-fourths grown. Dr. A. W. Deadman, V. S., of Marquette, was in charge of their distribution. Other counties of the peninsula have also received shipments of pheasants, it being the purpose of the State Department of Conservation, which has charge of the Game Farm near Mason, to ascertain what counties are best adapted for these birds.

JUICE MANUFACTURERS WANT LOWER GRAPE PRICE

NEGOTIATIONS are now on between the grape growers and the juice manufacturers, which will greatly influence the price for Michigan grapes this season. The manufacturers are asking for contracts at the price of \$35.00 per ton, as compared with \$120.00 a ton a year ago. The growers are resisting the efforts of the manufacturers to make contracts at this price, as they say the reduction is too great, and it would result in the crop being sold at a loss, as the prices for spray materials, other materials and labor are still high.

The large growers' associations are urging non-members to withhold their consent from these contracts as they realize that if some sign, it will break the resistance of others, and after the contracts become prevalent they establish the price that outside buyers pay.

TO PROVE VALUE OF LIME AS FERTILIZER

THROUGH the cooperation of the Agricultural College, county agents, France Stone Company, which will supply the lime, and the Michigan Central Railroad, which will transport it free of charge, lime tests involving twelve counties are being started. The purpose of these tests is to show the value of lime as a soil builder when applied intelligently and persistently.

In each of the twelve counties, which include Barry, Berrien, Branch, Calhoun, Hillsdale, Ingham, Jackson, Lenawee, Oakland, St. Joseph, Van Buren and Washtenaw, the county agent has chosen four farms, which, in his opinion, represents the main soil types of his county. On each farm a six-acre project will be established, when the various plots will receive lime in different quantities and methods of application. The hope is to receive from these tests some definite information as to what lime application is best for the various types of soil.

These tests will run for four years, and the experimental plots in each county are always open to the observation of visiting farmers. Also after the experiments get under way, field meetings will frequently be held so that those interested may gain the information obtained from these tests at first hand.



Wednesday, August 23.

TWO die when a Michigan Central train was ditched at Gary, Indiana, by railroad strikers.—C. W. Bryan is taking the place in politics of his famous brother, Wm. J., by running for governor in Nebraska.—Less than one per cent of the traffic over the Gratiot Pike near Mt. Clemens is horse-drawn.—The United States Department of Agriculture warns farmers against rain-makers who claim to be able to produce rain during droughts.

Thursday, August 24.

THE "Big Four" railroad brotherhoods call strike on the Southern Railway because of the presence of guards.—Because of coal shortage the Ford Motor Company is using oil for fuel.—Fourteen thousand miners in Iowa who have been on strike since April 1 have returned to work.

Friday, August 25.

CHICAGO opens its annual fruit market on the Municipal Pier, where Michigan fruit is sold on the cash-and-carry basis.—Michael Collins, the great leader for Irish freedom, has been assassinated.—The United States Steel Corporation gives 156,000 day laborers a twenty per cent increase in wages.—The crew of the British steamer Mexican Lady went on strike because it was not equipped with electric fans.

Saturday, August 26.

OVER 600 hens are entered in the State Fair egg laying contest.—Seventeen are detained to have trial in connection with the secret radical

gathering in the woods near Bridge-man, Berrien county.—The New York parley between the railroad men and the brotherhood leaders failed because the executives would not give in on the seniority clause.

Sunday, August 22.

TWO agents of American Near East Relief were held up in Turkey and robbed of \$30,000.—Forty thousand Armenians and Tartarians are starving because locusts have ruined their crops.—Colorado police have rounded up thirty-three persons who were conducting operations in Colorado, Florida and Cuba to fleece the grain and stock manipulations.—A new belief is started in New York which contends that the souls of the dead live on stars.

Monday, August 28.

PRESIDENT HARDING gives the miners and mine owners twenty-four hours to settle difficulties in the anthracite fields to avoid seizure of the mines by the government.—Henry Ford announces he will shut down his plant September 16 until profiteering as the result of strikes is ended.—Mrs. Peter F. Quidort, eighty-five years old, looped the loop in an airplane and enjoyed it so much she must do it again.

Tuesday, August 29.

THE Russian Soviet government states that it will back Germany if France attempts to occupy the Ruhr district.—John Drysdale, a West Virginia farmer, died the other day at the age of 126.—Leon Trotsky, Russian Soviet leader, is going to Berlin to hold Red meetings.

Gassing the Peach Tree Borer

An Easy Way of Using Hard-to-Pronounce Paradichlorobenzene Does the Trick

By A. Freeman Mason

A LONG about the time the Germans were planning their first gas attacks in Flanders Fields to destroy human life, a worker in the United States Department of Agriculture was industriously investigating the possibilities of a gas attack on the wily Peach Tree Borer. After several months of labor, he marched forth with some charges of Paradichlorobenzene and sent the borer forces scurrying into their dugouts never to fight again. An ounce of Paradichlorobenzene, worth about a cent and a half spread in a narrow band around the base of the tree, in the latter part of September or in early October and covered with three or four inches of earth—three minutes work, all told, now spells the doom of one of the worst enemies with which the peach grower has had to contend.

Paradichlorobenzene is a white crystalline material in appearance, similar to Epsom Salts, and was a by-product in the manufacture of monochlorobenzene. It evaporates slowly, giving off a gas which is heavier than air, and which is poisonous if breathed continually for a great length of time. It is insoluble in water, and will not evaporate rapidly enough in cool weather when the temperature is below 50 degrees F. to kill the insects satisfactorily.

The peach tree borer has always given the fruit grower one of the biggest battles encountered in the industry. Every year it costs the growers millions of dollars both in damage to trees, and in remedial measures. Young and old trees alike are attacked and killed if left to the ravages of the borers, and those not actually killed are left weakened and subject to attack of diseases and other insects.

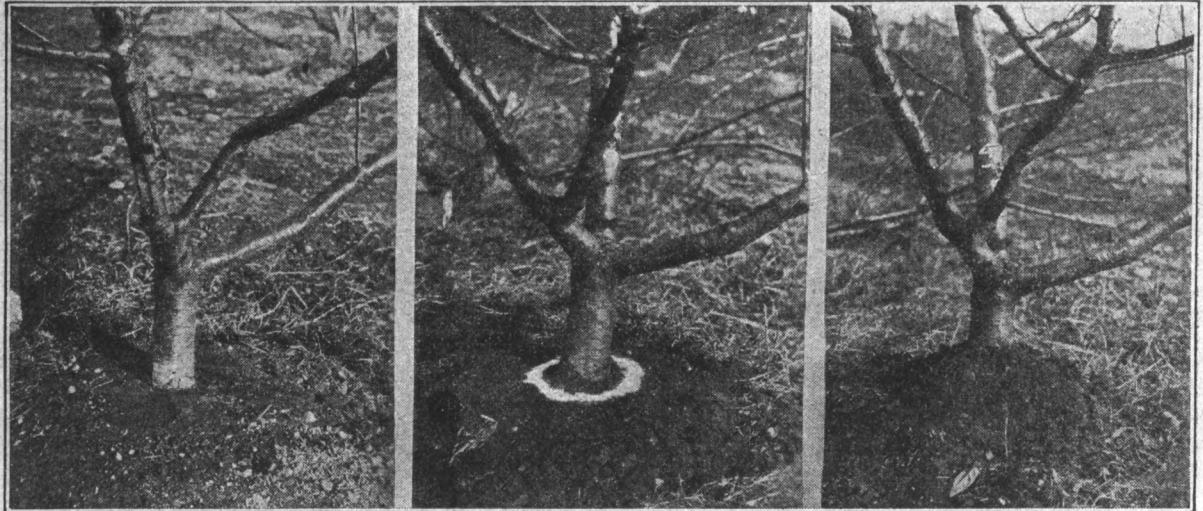
The eggs of the insect are deposited on the tree in the summer and early fall, all of the worms being hatched by late September. The young worms soon burrow into the bark and spend

the summer feeding on the inner bark and sapwood tissues, killing the growth at that point. Their galleries may be as much as six or eight inches long and two inches wide in spots, generally extending up and down the tree. Large quantities of gum and frass exude from the burrows, making a ring

the base of the trunk. The egg is reddish brown and one moth may lay from 200 to 600 eggs in a season. These eggs in turn hatch out and make the brood for the following season. Worms of all sizes may be taken from the trees in the summer, ranging from the tiny larva just hatched from the egg to

effects of the Paradichlorobenzene.

The results were grouped under two sections, those blocks treated before September fifteenth and those treated afterward. It was found the ounce and half ounce treatment gave 97.5 per cent and 95.1 per cent control respectively when used after September fifteenth. The trees treated before September fifteenth did not turn out as well because a lot of borers hatched



Left, Rubbish Cleared Away From Trunk; Center, Material Applied in a Ring Around Tree Not Touching Bark; Right, Earth Piled Up Around Tree to Prevent Escape of Gas

of gum about the tree at the surface of the ground when the infestation is severe.

The larva or borer, is a white or light yellow worm, with a reddish brown head, and grows to approximately an inch in length at maturity. Upon maturity the worms leave the burrows, and spin a rough cocoon near the surface of the ground, and usually attached to the tree, and three or four weeks later, a steel-blue clear-winged moth emerges from the cocoon.

Mating takes place and the female lays eggs immediately thereafter, depositing them singly or in groups near

the mature borer, ready to pupate.

In the summer of 1920, the Extension Department of the New Jersey Experiment Station put on thirty-six demonstrations for borer control with Paradichlorobenzene in all parts of the state, on all soil types ranging from the lightest sands to the heaviest red clay. Almost 4,000 trees were treated, some with one ounce, some with a half ounce, while others were left untreated for comparison. The dates of application ranged all of the way from August third to September twenty-third. In the spring, several trees on each block were examined to note the

out after the material had been applied, and did not go down into the ground, but stayed up high on the trunk, thus escaping the fumes. To be truly successful in insect control, any remedial measure should be effective before the insect does any damage. Therefore the proper time of application of Paradichlorobenzene is after the eggs have all hatched out, but before the worms have done much boring. The material is therefore applied to best advantage late in September or early in October. One point must be borne in mind in this connection

(Continued on page 245)

Dairying by Guess and by Gosh

Is the Best Way to Keep Star Boarders in Your Herd

By Earl W. Gage

AS the dairy herd comes fresh for another year's yield of milk, it is a good time for the farmer to start testing his cows and knowing what each one does—or does not. The dairy farmer who does not keep systematic records of each milking cow in his herd is not doing justice to himself nor to his cows. He may be over-feeding a record-producer or he may be over-feeding a worthless scrub, either of which is not a paying proposition.

A farmer may have a world-record cow and not know it if he does not test. Tom Barron, of Brantford, Ont., never would have known that he had a cow capable of producing nearly 1,

600 lbs. of butter in a year, if he had not been testing Bella Pontiac. As a result of a year's testing, this cow advanced in value from between \$200 to \$300, to a value of anywhere between \$5,000 and \$10,000. Pretty good pay for only one year's work on one cow!

The actual time of weighing and testing, probably did not take Mr. Barron over two minutes a day for weighing the milk three or four times a day; while the testing was done by Government-employed men in the Record of Performance, the actual

cost of which was very little—practically nothing but the cost of board and lodging for the inspectors while at the farm two days a month. In addition, the cow was tested under Record of Merit rules part of the time, for which the owner is required to pay the supervisor \$3 per day and traveling expenses. It is doubtful if the whole cost of having this cow's milk tested officially for a year was more than \$150. This was money well invested, but before it was invested, Mr. Barron had himself carried on tests that demonstrated something of the great possibilities of the cow. But suppose, on the other hand, he had kept blindly on? What an opportunity would have passed right by the Barron farm!

The dairy farmer has three systems of public testing open—two applicable to those who keep pure-bred cattle—one of these open to put one breed, Holstein-Friesian; the other, open to all dairy or dual purpose breeds. The third is the cow testing association open to all dairymen whether they keep pure bred cows or grades. All should easily be able to get into one or other of these three plans for test-

ing cows—Record of Performance; Record of Merit, or Cow-Testing Associations, and receive the benefit which comes from contact with others interested in a similar line of work.

There may be farmers who, for various reasons, are unable to take up testing in any one of the three public systems mentioned, but who would like to know what each cow is doing in the herd. This may be done by following the following rules: To do any job well, we must have proper tools. This applies to cutting wood, digging a ditch, or to any one of a dozen pieces of work on a farm. So, for testing cows, we must have suitable tools. These are: a milk scale, preferably of the circular-dial, two-hand type; milk pails all of the same weight, a milk sheet properly ruled for days, or three days a month weighing for each cow; and a lead pencil attached to the milk sheet for convenience. If every dairy farmer went no farther than this and weighed each cow's milk regularly throughout this year, he would have taken a marked step in advance over the "by guess and by gosh" method of simply not knowing what his cows are doing or not doing.

The milk scale can be bought from
(Continued on page 243)



Professor Reed Giving a Dairy Demonstration at U. P. Round-Up.

Potato Tour Helps Many Farmers

Seven Days Trip Winds Up with Big Picnic at Tom Buell's Farm at Elmira

At least every Michigan farmer is interested and concerned in the production of certified seed potatoes. Comparatively few are in a position to grow such seed because of soil and climatic conditions, yet every farmer who grows potatoes for commerce and all who produce for home and local use will be anxious to avail themselves of seed that will increase yields from 10% to 25%.

The certified seed business is still young. In Michigan it is scarcely three years old. But the evidence already accumulated shows clearly that a happy combination of high class potato land and unusually favorable climatic conditions are combined in many of our northern counties and some southern sections to enable the farmer of these localities to grow ultra-superior seed tubers.

The extended potato tour of the past two weeks was designed to acquaint farmers of these localities with the peculiar requirements for producing such seed and to inform others of the advantage in using healthy seed having, as one of our newly made citizens stated, "wim, wigger and vitality."

The potato tour took us through Missaukee, Wexford, Grand Traverse, Antrim, Charlevoix, Emmet, Cheboygan and Otsego counties. Field instruction was given largely by J. W. Weston, potato extension specialist of the Michigan Agricultural College, and Mr. Moore, secretary of the Michigan Potato Association. County Agents Johnston of Wexford, Drake of Antrim and Charlevoix, Dr. Huston of Grand Traverse, Cavanaugh of Emmet, Jewel of Cheboygan and Otsego were responsible for local arrangements. They planned a heavy program which admitted of no loafing. In future issues from time to time we shall give experiences of many of the fifty or more farmers visited, but space at this time will only permit a general resume of the lessons learned during the tour.

We first learned that it was only wide awake farmers who were undertaking to grow certified seed. The rigid rules and regulations laid down by the Michigan Potato Growers' Association and the high standard of inspection work demanded by the men picked by the Michigan Agricultural College make it imperative that the growers who follow the program laid down have a working knowledge of the best agricultural practices of the district. This very fact together with the earnest and aggressive interest of the county agents gives assurance that the product offered by these men

out in the row between the hills were cut off by the cultivator and the root system was thereby robbed of much feeding surface.

Rotations were also given attention. We observed fields where potatoes followed alfalfa, sweet clover, common clover, alsike, June grass sod, pasture lots, etc. It was very evident that these progressive men had reached a general conclusion that it was best to precede the potato crop with some legume crop. It appears that sweet clover and alfalfa are in general favor in this regard.

Many fertilizing projects were seen



will in every way meet the requirements of potato seed users.

Cultural methods were emphasized. Among the things vividly pictured to the minds of the travelers was early spring or late fall plowing; the application of barnyard manure to the sod the season before the potatoes are to be planted; the breaking up of the sod with the disc before plowing; harrowing the ground frequently before planting to make the seed bed firm yet have it worked up to a good depth that the tubers may have a chance to develop without too much resistance on the part of the earth; harrowing many times after planting to conserve moisture; to keep down weeds and to prepare plant food for the plants later in the growing season. There were many opportunities to demonstrate the damage that may be done by cultivating deep after the plants have attained some growth. In many fields the side roots reaching

in the inspection trip. Definite data on these can be had only at digging time when exact results can be given. The general impression, however, is that the plots where commercial fertilizers were used were better than those not getting applications, particularly on land lacking in fertility. An important lesson was that commercial fertilizers aid in making the farm-yard manure do double service.

Insect troubles and potato diseases were given much consideration. Especially was this true of ailments affecting potatoes for seed purposes or that have but recently come among us or those for which aids in control have but lately been discovered.

The now famous potato leaf hopper got her share of the campaign propaganda. The secrets of her life were revealed by Mr. Weston at practically every one of the fifty or more farms visited. How she drills a hole into the mid-rib of the leaf from the un-

der side, lays eggs and when these hatch out how the offspring in the form of little larvae eats away the tissue and prevent the sap from flowing to the portion of the leaf beyond, were painstakingly told to every farmer by the potato extension expert. The failure of sap to reach the end and other parts of the leaf results in the burned appearance of the tissues, hence the term "hopper-burn."

There was ample opportunity to see from the fields visited that spraying with a 4-4-50 Bordeaux mixture under at least 200 pounds pressure so that the spray would be well-spread on the under surface of the leaf as well as from above, did control the leaf hopper by driving him to other plants. In one instance where a nozzle had failed to work on one side of the row the hoppers had migrated to the unsprayed side. This spray also controls the aphid or plant lice, reduces damage from a number of plant diseases and stimulates plant growth. In two or three instances the results of this stimulating effect was very pronounced.

In connection with the tour programs were held at Manotou and Boyne City and at the fine farm home of Thomas Buell, President of the Michigan Potato Growers' Association, at Elmira the big picnic and final program, were held. Much of the information and instruction given in the fields were repeated on these programs together with several phases of the broader aspect of the potato business and farming in general.

The tourists stopped at nearly 60 farms and probably six or eight hundred growers, mostly men who are producing certified seed, were able to get first hand information on the many problems they have to contend with. The Michigan Farmer wishes to congratulate those who designed and carried out the splendid educational program.

Booze Business Not Yet Dead

By Arthur Capper

JUST now the Literary Digest, polling the country, finds indications of a respectable minority element, mostly in the cities, that would tilt the prohibition lid sufficiently to admit the use of light wines and beer as common beverages; and yet would retain national prohibition!

It can't be done.

This nation cannot exist half slave and half free, said Lincoln in his time. I believe it as true now to say that it cannot exist half "wet" and half "dry."

It will have to be the one or the other.

Liquor always has been a determined and shameless violator of the law, it is the world's most depraved and vicious lawbreaker. The saloon, when we had it, defied regulation. It would not be even halfway respectable. It would not obey the simplest rules dictated by common decency. It allied itself with everything that was demoralizing, vicious or rotten, in private or public life. In politics it cajoled and bribed and threatened. It prostituted government. It permitted nothing to come between it and its mission which was to turn out as many drunkards as possible. It had actually besotted the Nation before, step by step, we began to rid ourselves of this curse.

If now we should make the sale of

light wines and beer legal, how long would it be before we should have these alcoholic beverages "spiked"?

You may depend upon it their alcoholic content would not remain stationary.

The drinker would demand more and more "kick," and not even martial law would keep the booze sellers from giving it to him. The inevitable result would be—national prohibition on the statute book and in the constitution—but booze everywhere else for all who wanted it, and as long as they could stand up and drink it and had the price.

In this struggle with the dying drink traffic, the Nation is now exhibiting the customary first phase of prohibition enforcement. Every prohibition state has had to pass thru just such a marked reaction. The "wet" interests, of course, will make the most of it, it is their last hope. For the time being, judging from the Digest's poll, the "wets" appear to have won many by their treacherous light wine and beer propaganda. To this extent the Digest's poll is rather a startling demonstration of the strength of the "wets." Prohibition may as well recognize that the—booze business is not yet dead. We must keep up the

fight, until the pendulum swings back to strictly bone-dry prohibition, which it is certain to do, and "the cat dies."

A striking example of the laxity of the moment, is the exposure of the U. S. Shipping Board. To gain a few dirty dollars selling booze, this board did not hesitate to compromise the good name of the American people, dishonor their flag and debase their government in the eyes of the world by putting it in the humiliating position of violating its own laws and constitution. In order to gain a few more dollars to bolster up its merchant marine it has turned these ships into floating saloons at the very time when, thru our Department of State, we have been sanctimoniously requesting the government of Great Britain to put a stop to booze-running under the British flag between that country and this!

Thanks to the shipping board, what a spectacle we are for an upright people and Nation!

While with us a great effort is now being made to override the Volstead Act and restore wine and beer, foreign lands are getting ready to take the water-cure. Central Europe will have prohibition in a few years, reports E. L. Hohenthal, just returned from five-

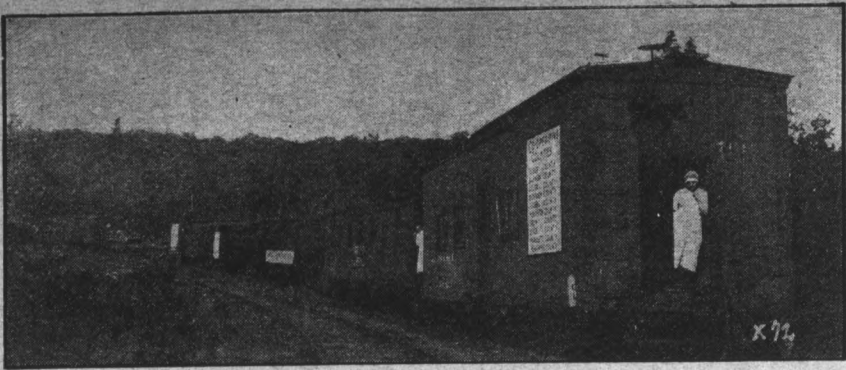
months' investigation in those countries. The anti-liquor movement is making rapid headway in Germany, Austria, Czecho-Slovakia and even in Italy. Scotland, famous for its whisky, a land of hard drinkers, has begun voting itself dry by the local-option method. World prohibition cannot be far around the corner.

The American people have every reason to be steadfast in stamping out the drink traffic, every incentive to hold fast to prohibition. It has steadily increased their bank deposits, built more homes than were ever built before in a given time, caused more money to be spent for the necessities of life. This country's booze bill was two billion dollars less last year than in the years when we had saloons.

Two billions a year for 12 years would pay our war debt.

There is much to indicate that 17½ million Americans, formerly steady drinkers, are now on the water wagon. We should make it easier for them to stay there instead of harder.

So many states have proved that prohibition is effective that to say we cannot have bone-dry national prohibition is ridiculous. Just now we should be its vigorous and aggressive champions. One thing is certain. Whatever Congress may do this country will never vote for a beer and wine amendment to the Constitution.



The U. P. Land Clearing Train

The Land-Clearing Schools

By L. A. Chase

THE series of thirty-eight land-clearing schools, which have been conducted in the Upper Peninsula, this season, under the direction of the Michigan Agricultural College, came to an end with the school near Ironwood. It is estimated that 10,000 people—mostly farmers—attended these schools, which resulted immediately in the clearing of 86 acres, or about two and one-half acres to the school. The series was worked to a schedule, which was not varied, rain or shine. It has been a thoroughly business-like operation throughout.

Among the various devices for stump-removal, employed at these schools, it is said that the most popular among the farmers has been Paul Bunyan's "hammer," which is a mallet-shaped contrivance that adds greatly to the power of horse or man in eradicating a stump. Constructing ditches by the use of dynamite has also been an eye-opener to the farmers, it is stated, since this process has been used in places where other means was quite impracticable.

Among the schools, the Otter Lake settlement, in Houghton County, holds the premier position for attendance, it

is reported, since there were approximately 650 people at this school, which was conducted on the grounds of the well-known Otter Lake Agricultural School. Wakefield, Gogebic County, claims the honor of the largest number of certificates granted to farmer students at any school—258 in all. The total number of stumps removed in all schools is estimated to have been 6,000.

Now that the series of schools is over, the equipment made use of by the land-clearing train has been distributed. The two tractors have been returned to the Menominee firm which loaned them for the schools. Much of the other equipment has been stored at the Upper Peninsula Experiment Station at Chatham, for use, probably next year. In this connection it ought to be stated that the rumor that has gone abroad that worthless sandy lands are to be cleared, is emphatically denied by Larry Livingston, in charge of land-clearing schools for the Agricultural College, who insists that no lands that are fit for forest purposes rather than agriculture will be cleared of stumps under his direction.



It's Easy to Rip Them Out When You Know How

Potato-Growers' Meeting

(Continued from last week)

At the business session on Wednesday morning General Manager A. B. Large pointed out that there were now 128 associations affiliated with the Exchange as against 119 a year ago. Progress has been made in improving the standard of shipments. The quantity of potatoes moved last year was less than for the previous season on account of the crop conditions. Total amount of business done aggregated \$1,777,829.11. The average pooling price for September, October and November was \$1.705, for December, January, February and March, \$1.58, and for April, May and June, \$1.362. The Chief Petoskey's packed in branded sacks netted an average of 8½¢ above U. S. number one grade. The total rejections of potatoes for the season of 1920 were 393 cars and it cost \$46,106.23 to make adjustments. This past year the rejections were but 169 cars and the cost of adjustments

was cut to \$9,093.58, or a trifle more than one-half of one per cent of the sale value of the potatoes.

The financial report read by Secretary-Treasurer C. A. Wood the total assets of the Exchange to be \$79,485.47 of which \$22,736.66 is cash in bank and \$22,431.22 is due from local associations. Liabilities include membership fees of \$12,800 and a total surplus reserve to date of \$61,331.31. After returning to the membership associations \$15,048.08 there is remaining in the surplus reserve \$46,283.23. The total operating expenses were \$76,338.50. Commodities handled during the season were 2,439 cars of potatoes, 28 cars apples, 10 cars cider apples, 19 cars of celery, 5 cars cabbage, 5 cars wheat, 14 cars of rye, 78,550 lbs. of seed potatoes, 19,900 lbs. of beans, and 200 lbs. vetch.

The Sales Department as reported (Continued on page 247)



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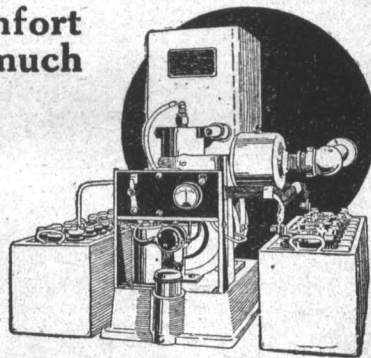
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PIGS HAVE COLD

Our little two-weeks-old pigs have a cough. We had to change their sleeping quarters because we had a sow that was due in a few days. So we put the little pigs outside and they were sleeping on the ground, but we had a box over them. They caught an awful cold. Could you tell me what I could do for them.—H. H.

Your pigs have no doubt taken cold from exposure. Hogs are susceptible to colds the same as people, but harder to doctor, especially at two weeks of age. About all you can do is to see that their bed is clean and free from dampness, dust or drafts. They should have shade in the heat of the day and shelter at night. Observe these things and if necessary regulate the food of the dam to keep their bowels in good condition and they will no doubt be all right in a few days.—Pope.

DRAINING MUCK

Can you give me some idea of cost of tiling 160-acre farm, 80 acres muck (not deep), and 80 acres muck spotted with clay and sandy loam with direct outlet into dredge ditch.—Mrs. H. A. S.

Ordinarily muck land, which is underlaid with clay, will require prac-

tically the same sort of drainage as clay land, because after the muck has been drained it will settle and work into the clay so that there will be practically no muck left after a few years of cultivation. I would suggest that this be drained about four rods apart. If, however, you have two feet of muck it might be drained five rods apart. The tile should be laid at least three feet deep and better three and a half feet if you have two feet of muck because the muck will settle at least a foot leaving your tile only two and one-half feet underground. I am assuming that the tile in this case will be laid in the clay subsoil. If the tile are spaced four rods apart it will take approximately 600 tile per acre.

If soft clay tile are used, they will probably cost, delivered at your station, about \$35 per thousand. Glazed tile would cost around \$45 per thousand. This would mean that it will cost for tile \$21 to \$27 per acre. The digging should be done for around 50c a rod, which will cost \$20 per acre where the tile are spaced four rods apart. I am assuming in making these calculations that you wish this farm thoroughly drained so that it will be suitable for nearly all kinds of crops, especially cultivated crops. If the

muck land is merely intended for hay it might be possible to get satisfactory drainage by spacing the tile drains 10 rods apart. The upland will cost practically the same as the lowland when tilled four rods apart. The drains on the high ground, however, should not be put in more than two and one-half feet deep.—Robey.

SEEDING ALFALFA WITH WHEAT

Would like to know if it isn't possible to get a seeding of alfalfa and sweet clover, sowing it with wheat. It would seem if sowing them alone late in August will secure a catch, chances ought to be good seeding with wheat. Putting these seeds on in the spring when the ground has become hard and the wheat has got a heavy top seems to choke them out easier than red clover, which seems to start quicker.—B. C.

Late in August is too late to seed alfalfa or sweet clover, even when seeding alone. That is, it is taking a big chance in getting them well enough established to prevent winter killing. If you defer sowing until September 15 and then make these plants battle for existence with the wheat plant, a quick vigorous grower, you are lessening your chances very much.

If sown on wheat in the spring, there is only a short time before the wheat is removed and the alfalfa has the entire field to itself. There is no difficulty in getting the seed covered sufficiently when sown in the spring on wheat if you sow early before the frost is out of the ground. These seeds do not want to be covered deeply.

I apprehend the reason why the alfalfa or sweet clover does not catch as well as red clover is because of absence of proper bacteria. The soil should be inoculated for these plants. Or, perhaps your soil is somewhat acid. If so, it must be limed for these plants.

LIEN ON SILO

I bought a farm, not knowing that the silo was not paid for. I understand that the company has a lien note on the silo, but I cannot find where it is recorded. The company has a lease on the ground it stands on. Will I have to pay for it?—B. R.

The purchaser of the land without notice of title to fixtures in any person other than the owner of the land takes the fixtures free from such latent claims. Actual possession by a tenant is notice to all persons dealing in the land of the rights of the tenant in the premises; but a lease without actual possession is no notice of the rights of the tenant; and under the facts here we see no such possession by the lessee as would give notice of its rights.—J. R. R.

RIGHTS OF VENDEE ON LAND CONTRACT

A husband buys a house and lot on a contract, pays a small sum down, but dies before he has fulfilled the contract. The contract was in husband's name. Can the widow sell the personal property to pay for it, and have the deed in her name?—Mrs. M. B.

Upon the execution of the land contract, the purchaser becomes the equitable owner of the land. Upon his death his interest descends to his heirs subject to the payment of the balance of the price to the vendor. Only the heirs are entitled to a conveyance, and if there are no children, parents, brothers, or sisters, of the husband nor issue of any, the wife would be the heir. Otherwise she would only be one of the heirs.

The personal property is primarily liable for payment of the debts of deceased and cannot be applied to pay the balance on the contract until distributed to the heirs upon closing of the administration.—J. R. R.

The Michigan State Department of Agriculture

By John A. Doelle

IT has been my thought for some time that the public should be better advised upon the powers and duties of their State Department of Agriculture so that they might avail themselves of the services that the Department is equipped to render.

The Michigan Agricultural College Agricultural Publications, The State Grange, The Gleaners, The Farm Bureau and the Farmers' Clubs have all rendered valuable services and have been great mediums through which information to the individual has been disseminated. The great work done by the Michigan Agricultural College never has been, and I doubt if it ever will be, fully appreciated, due to the fact that but few of the citizens of Michigan realize the splendid service which she has rendered and is rendering to the State and Nation.

The State Department of Agriculture, being somewhat new in its organization, I feel that as a matter of good citizenship it is my duty to inform the public as best I can of the service that this Department can render so that those who contribute to its support can avail themselves of those services.

It is well understood that where departments of government are properly organized, they will be clothed with authority and embrace all of the activities necessary in order properly to function.

It is also a fact that in order to have an efficient and economical government, there should be no duplication of work or conflict of authority in its different departments.

These facts were recognized by the Legislature of Michigan during its last session. It enacted a law creating the Department of Agriculture, and transferred to this Department matters pertaining to animal industry, the state food and drug commissioner's department, work heretofore performed by the Veterinarian Board and Commis-

sioner of Immigration. It also transferred and placed in this Department the inspection and regulation of orchards, vineyards and nurseries, inspection and regulation of apiaries, testing of agricultural seeds, analyses of commercial fertilizers, testing and examination of insecticides, analyses and testing of commercial stock foods, investigation and improvement of market conditions, and matters pertaining to state and county agricultural fairs.

It is the work of the Commissioner of Agriculture to co-ordinate and correlate the work of all of these bureaus and agencies so as best to serve the agricultural interests of this commonwealth.

In order properly to determine what line of action to pursue, the first thing to do is to ascertain the facts. This is done by gathering statistics in regard to all matters pertaining to Agriculture. Statistics should be obtained by those who understand their value and who know best how to compile them when they are gathered.

Reliable information obtained in regard to conditions affecting one branch of agriculture often has a bearing upon matters pertaining to other branches of agriculture. By having the different bureaus in one department, all of the information obtained by them is available for all.

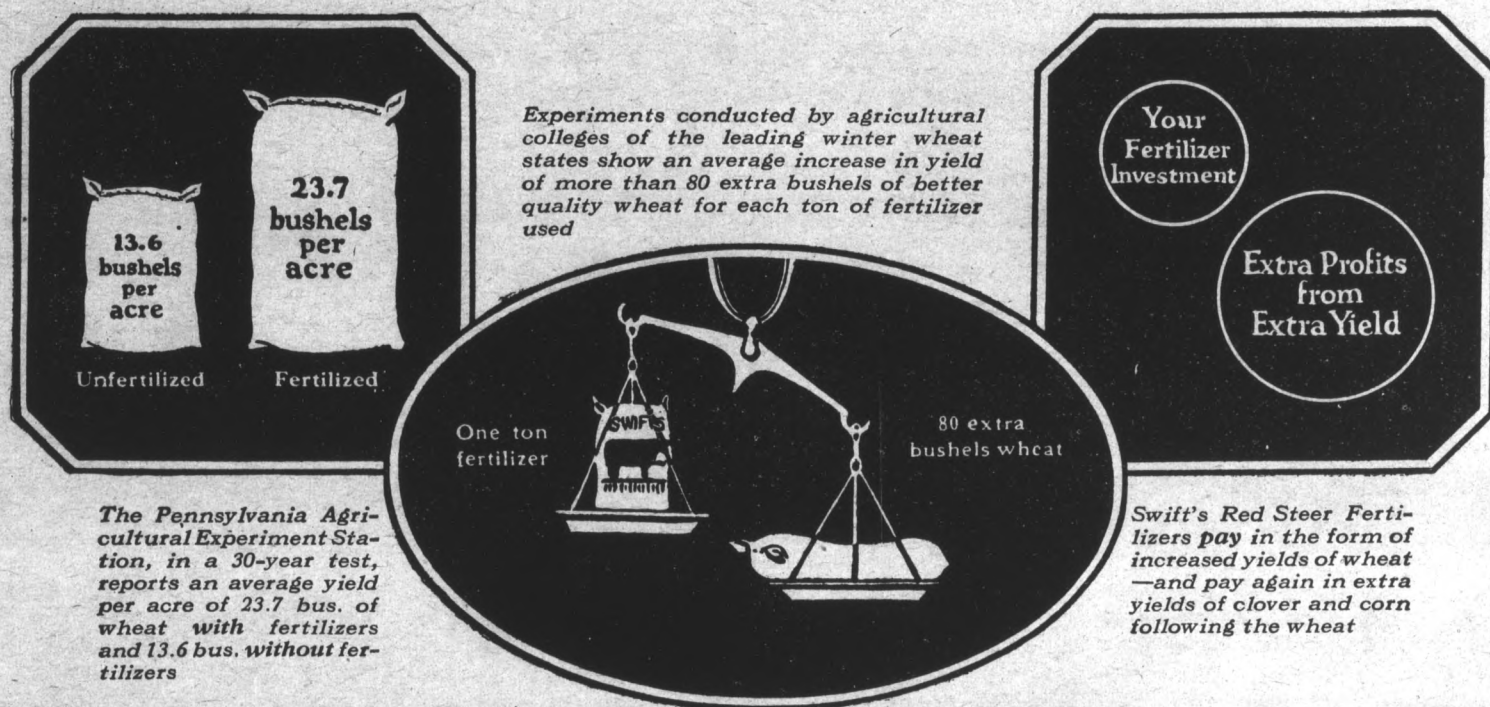
Perhaps one of the most far-reaching provisions in the act creating this department is the one which provides as follows:

"It shall be the duty of the State Department of Agriculture to foster and promote in every possible way the agricultural interests of the State of Michigan; to cooperate with agricultural agencies in the different counties of the State and of the Federal government; to foster direct trading between the producer and the consumer; and to prevent and assist in preventing by all available means au-

(Continued on page 247)

Make sure of your money crop with Swift's Red Steer Fertilizers

*No other investment is more certain of returns
than Swift's Red Steer Fertilizers on wheat*



EVERY acre you sow to winter wheat this fall should be made to yield 5 to 10 bushels more. Think what it would mean to you!

Think of the profit from this extra yield of better quality wheat in the terms of needed improvements on your farm—a tractor or truck, a new automobile, running water and improved plumbing in your home, an electric lighting system and money for those things you desire.

Get a good stand of wheat

With the late planting, to escape the Hessian fly, as recommended by the Department of Agriculture and various experiment stations, it is more necessary than ever to use Swift's Red Steer Fertilizers to make sure of your money crop.

Swift's Red Steer Fertilizers produce the fall growth necessary to minimize winter killing. Fertilized wheat is also better able to resist attacks of insect pests and diseases.

Figure the profits for yourself

Experiments conducted by experiment stations in the leading winter wheat states have shown an increase of 80 extra bushels of better quality wheat for each ton of fertilizer used.

Thousands of farmers get these extra bushels per acre with Swift's Red Steer Fertilizers. In addition to the profit from the extra yield of better quality wheat, they

are practically sure of a good clover catch.

Fertilizers that are made right

For over fifty years Swift & Company has maintained the reputation of making each Swift product the best of its kind. This reputation stands back of every bag of Swift's Red Steer Fertilizers.

Swift's Red Steer Fertilizers are evenly mixed and thoroughly cured. They drill freely and evenly.

The Red Steer on the fertilizer bag is your guarantee of highest possible quality.

Get the most for your money

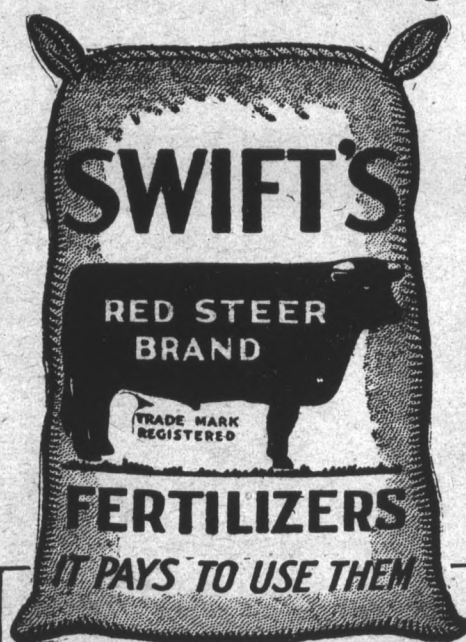
Buy brands containing 14% or more plant food. The cost of freight, labor, bags, etc., is the same per ton regardless of the plant food content, just as your labor, interest on investment, taxes, etc., is the same whether you grow 15 bushels or 30 bushels of wheat per acre.

On most soils use Swift's Champion Wheat and Corn Grower, 2-12-2, applying from 200 to 400 pounds per acre to get largest yields of best quality wheat.

On soils rich in available nitrogen and potash, see the local Swift dealer regarding the best brand to use. Buy from our local dealer or write us.

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DEPARTMENT 48

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Visit the Michigan State Automobile School

If possible, we want every Farmer in Michigan to know and appreciate what this institution stands for. It is one of the best friends the farmer boy has. Thousands of boys from the farm have found this School their first and biggest step to Success.

Bring Your Boys

Go through the school with them. See for yourself what we teach,—and how. Look into every nook and corner of our great institution and notice the completeness of our equipment; the thoroughness of our instruction. Then notice the type of young men who come here to be helped on the road to Success.

Here we are teaching hundreds upon hundreds of young men how to care for and handle all kinds of mechanical equipment properly,—autos, trucks, tractors, lighting plants, gas engines, etc. It is one of the most complete and comprehensive courses of instruction to be found in a trade school.

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School is open to visitors from 8 A. M. to 9:00 P. M. Class hours are 8:30 to 5:00, also evening classes Monday, Wednesday, Friday, 7:15 to 9:45. Take Woodward Avenue car at Fair Grounds and get off at Parsons Avenue right in front of our School. Interesting booklet free to every visitor from the farm.

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A new oil lamp that gives an amazingly brilliant, soft, white light, even better than gas or electricity, has been tested by the U. S. Government and 35 leading universities and found to be superior to 10 ordinary oil lamps. It burns without odor, smoke or noise—no pumping up, is simple, clean, safe. Burns 94% air and 6% common kerosene (coal oil).

The inventor is offering to send a lamp on 10 days' FREE trial, or even to give one FREE to the first user in each locality who will help introduce it. Write today for full particulars. Also ask us to explain how you can get the agency and without experience or money make \$250 to \$500 per month. Address

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Works in any kind of soil. Cuts stalks, doesn't pull like other cutters. Absolutely no danger. Cuts Four to Seven Acres a day with one man and one horse. Here is what one farmer says:

WORKS IN ANY KIND OF CORN IN ANY SOIL. Gentlemen:—The Corn Harvester worked fine in medium corn on sandy land. Although I am an old man 65 years old, I cared for ten cows and cut 150 shocks a day. I recommend your machine for work in any kind of corn in any soil. Yours truly, Elias Shallenbarger, Colon, Mich.

SOLD DIRECT TO THE FARMER Send for booklet and circulars telling all about this labor-saving machine; also testimonials of many users. LOVE MANUFACTURING COMPANY Dept. 27 Lincoln, Illinois



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Opinions & Comments

From Michigan Farmer Readers

MORE ABOUT WILD MORNING-GLORY

I FEEL like taking exception to the spirit in which the query concerning wild morning-glory is answered in your issue for August 19. Not that the means suggested for getting rid of the pest—thorough cultivation—would not accomplish the desired end, but that the writer would have one get the impression that it would be a comparatively simple matter. Just exactly the reverse of this is the experience we have had on this farm. In fact we believe that ridding a field of quack grass or Canada thistles is easy compared to this dreadful weed.

That the weed is increasing in its distribution is evident by the number of farmers reporting it when the subject of bad weeds is mentioned, and we have seen it in a number of neighboring fields. Just how it came to be there, or on our own farm, is more than we can say, but we know we have it and that we must fight to the finish to get rid of it.

On our own farm we have the morning-glories in but one field and here in but two or three patches aggregating not more than one-fourth of an acre. When first noticed the seriousness was not appreciated, but the last three years the plants have been hoed, spaded, raked, and burned most thoroughly. This present summer the patches have been gone over three times a week, making at least fifty times over them, and still an occasional plant shows itself. These are dug down to the branch roots—at least 16 inches—and then three feet each way to get all the branch roots. The surface roots are white, but the deeper roots are brown. As fast as dug these roots are dried and burned.

So that while anyone who knows how plants grow, knows that by keeping the green matter above ground hoed off they may be killed, still we must not minimize the work required to get rid of wild morning-glory.—C. S. Langdon.

THE RURAL MAIL BOX.

IN a recent issue one, Apollos Long, waxes bold and attacks Uncle Sam's system of keeping to the right in regard to mail delivery by the rural carriers. There are many orders which seem foolish to those that have not studied closely the details connected therewith, sent out by the post office department.

In regard to this particular order it was one of the wise acts of the post office department. I am not writing as one who has had no experience. I have carried mail for thirteen years, and with an auto for seven years and with all my boxes on the right for six months. Most carriers use a Ford, and if the carrier sits in the middle of the machine, which all carriers do with whom I have talked, suffer no loss of (pants) because when they once plant themselves in the middle of the seat they stay there for the whole trip, unless some thoughtless patron leaves his box so high, or neglects to fill a deep rut near the box, that he has to move. If the boxes were on both sides of the road he would have to have his wife continually patching his breeches.

Those with whom I have talked also say, and I see the same thing many times a day, that a carrier simply moves along with the traffic all boxes on the right side, instead of dodging hither and thither among the regular traffic where he has no business to be.

By so doing he is not only endangering himself, but others also.

I will give Mr. "Apollos" credit for striking one harmonious note, and that is to establish some kind of signal or lettering that would distinguish Uncle Sam's man from others. A good thing, boost it!—L. C. W.

WHAT'S THE CAUSE OF THE TROUBLE?

I ASK you is the Farm Bureau haven't got a bigger job on hand than ever, for if the farmers can't solve the big questions of the hour, who can?

What ails the coal miners and the railroad worker?

Are they not willing to "deflate," to take their medicine along with the farmer? They want and are going to have and are in a fair way to get the same wage they got two years ago.

When ten per cent of our population hold up the other ninety per cent, including the government, our country is getting to be almost as good a place to live in as Russia.

Where does the farmer come in in the scheme of things? For two years farmers have worked a little harder than ever and a large part of them had but little more than what they have eaten as pay for their labor. Thousands of Michigan farmers, and I dare say it is the same in other states, are still owing for the past two years' taxes and interest.

An awful howl goes up when the farmers talk about restricting production to the end that they may get living prices for what they produce, but there isn't a man in the United States today smart enough to tell us of any other way. Just as long as the farmers depend on Nature or the vicissitudes of the seasons to make a scarcity just so long they may and will be getting nowhere all the time.

Where the Joker comes in, though, bumper crops instead of being a blessing to this nation are a curse, makes bad times instead of good. The farmer gets far less money for bumper crops than he does for medium or small crops and when he gets but little for what he produces he has but little purchasing power and, therefore, can buy, but little of the goods produced by the industrial workers, thus making the whole nation hard up. If that isn't true, show me.

A. A. LAMBERTSON,

PERFUMING EWES

I'M going to give you my experience in making a ewe own her lamb. You can print it if you think it would interest any one.

A Lincoln sheep sheared twelve pounds of wool. She could have raised two good lambs, as she had so much milk. We found her lamb back in the field and carried it to the barn. She refused to own it, so I decided to try my skill.

I tied her up. She kicked and stamped and butted the lamb for ten days. I most give up the idea of beating her out.

Then a new idea came to me. I washed the lamb with soap suds and rinsed it. It was so pretty and white when it dried. I put perfume all over the lamb and also on the sheep in her wool, and in twenty-four hours she was owning the lamb. That ended my trouble. I got the idea from reading of a lion tamer who used perfume on lions when taming them.—Mrs. David Harley.

FARMERS TO PLANT SMUT-RESISTING WHEAT

IN the territory adjacent to St. Louis, in both Illinois and Missouri, the farmers are having considerable trouble with flag smut in their wheat. In 1921 only 72 square miles were affected, but this year over 700 square miles show evidences of this disease. Methods of control will undoubtedly prove ineffective, so smut-resistant varieties of wheat will be planted. Of the soft winter wheats, which are highly resistant to this disease, are Red Rock, Stoner, Fulcaster, Mammoth Red and Dietz. Of the hard red winter varieties Illinois 10-110, Kan-red Illinois 12-41, and P-1068 are resistant to this disease.

A RECORD POTATO YIELD

ACCORDING to government estimates, Michigan's potato yield will outstrip that of every state in the union except New York. If weather continues favorable, the state will produce a crop of 35,162,000 bushels, against 27,200,000 bushels in 1921. The 1920 census shows this state fourth in acreage and fifth in production and the sale of potatoes. New York, Wisconsin, Maine and Minnesota are the only states which approach Michigan in the production of this great food essential.

SELECT PLenty OF SEED CORN

THE Minnesota Experiment Station advises farmers to select about twice as much seed corn as they will need for 1923. It is estimated that about fifteen medium sized ears will plant an acre, and that the average farmer the country over will use about eight bushels of seed. If he spends two days selecting and sorting his seed, he will have plenty to choose from next spring.

What is left over from the double amount selected that has stood a good germination test can readily be sold to advantage, or may be kept as partial insurance for the next season's seed. The best time to select the seed is when the leaves of the plants are still green, but the husks are beginning to turn yellow and the ears well dented. It is also necessary to select the corn before danger of freezing, as it contains quite a little water before being dried and would be injured by freezing.

A GRASSHOPPER FUNGUS

IN South Dakota, they have found that a fungus disease is killing large numbers of grasshoppers. This disease when present is readily distinguished by the peculiar way in which the hoppers die. When attacked by the fungus the hoppers first become sluggish, then climb to the tops of the tallest vegetation where they secure the death grip and cling until their bodies disintegrate and fall apart. Wet and hot weather is favorable for the development of this disease. It is hoped that experimentation will result in a means of artificially inoculating the hoppers with this disease.

A NEW EGG SHIPPING SCHEME

FOLK County, Wisconsin, is the first one in the country to market its eggs through its creameries. This co-operative shipment began in July when the eggs were shipped in refrigerator cars, with butter, to such big markets as New York, Boston and Philadelphia. The farmers of the county have readily taken to this plan and are using the twenty creameries of the county as their market outlets. They are receiving about 8c per dozen above the local market after all shipping costs are paid.

Exide

BATTERIES



Delivering the goods

The horse is being driven closer to his stable; the gas truck (started and lighted by an Exide Battery) goes on long hauls; and through the great zone in between, the electric street vehicle is coming into its own. Propelled by an Exide Battery, it delivers the goods — with least trouble and most economy.

You will find Exide Batteries playing an important part in all manner of industries. Exides supply current for the telephone system; they run mine locomotives, operate railway signals, and propel a majority of the world's submarines beneath the waves.

Rugged, simple Exide Batteries supply the current for most of the farm light and power plants, and they are famous for lasting for years without getting out of order.

You are, perhaps, most interested in the Exide built for starting and lighting your automobile. It is known as *the long-life battery*. It keeps its dependable power so much longer that it is not merely a great convenience but is the most economical battery to buy.

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The nearest Exide Service Station has a battery the right size for your car. If your present battery needs repairs, no matter what make it is, it will be repaired skillfully and reasonably. If not in your telephone book, please write us for the address.

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—from ONE plant

NO need now to pay double for electric light and engine power. You can get both from one plant at one cost with the Fairbanks-Morse Double-Duty Home Light Plant.

At the same time that this remarkably efficient plant is storing up electricity in the battery, the engine power also will run individual machines or a line shaft driving a number of machines.

Famous "Z" Engine Used

The Fairbanks-Morse Plant is simple in design, carefully built, easily accessible. Requires little attention. There are no hidden intricacies. The famous "Z" Engine is combined with an equally sturdy, dependable generator and a long-lived, 16-cell, 32-volt storage battery.

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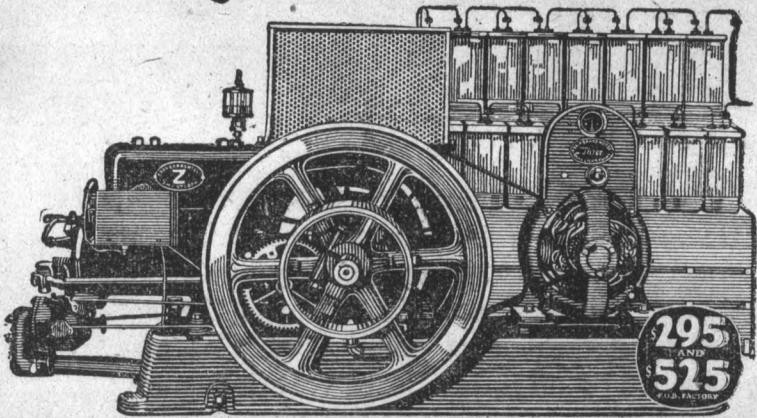
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3 Machines in ONE

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The Jenney more than pays its cost in one season

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with green silage, just like any silo-filler, but does it much better.

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and fills your silo with stover silage at one operation—giving you double value from your corn crop.

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With its special shredder head this machine husks the corn and shreds the fodder better than ordinary shredders.

Saves Your Ear Corn

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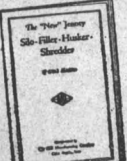


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Francisco Farm Notes

By P. P. Pope

Value of Cooperative Efforts

WE are permitted for the moment to turn aside from the routine work of the farm and consider some of the larger problems that effect each one of us. Many of these problems call for cooperation, for acting collectively. The 100,000 farmers of Michigan who comprise the State



learning in this enlightened age that there is great strength and influence in union, and are setting aside their petty grievances, which are bound to appear in any organized body, and staying with the crowd through thick and thin.

The success of all cooperative enterprises rests in a very large measure with the leadership, and so long as the management of our collective affairs remains, as at present, in the hands of men with level heads, stout hearts, and great souls, we may feel safe, and have confidence that our collective efforts will work only to the good of ourselves and to the welfare of the whole country.

But present day problems are not all collective by any means. We may feel safe and sure in lending our heartiest support to our farm organizations, but we must not expect them to do all things for us. Individual success in this world is won very largely by individual effort, and it is to our individual problems that each of us must first address himself.

The time is past and no doubt gone forever when the farmer who farms for a living can afford to produce an inferior article for the market. Whether it be cattle, or corn, or apples, or onions, it is the quality product that commands the price and brings the profits. True, the quality product always costs a little more, but the margin of profit is always greater, and it is this margin that determines the economy in the case. Economy of production in the future must be the mark to shoot at. There is a wide range in production costs that stamps the methods of some with efficiency, others with extravagance, and it is often the case that the most extravagant are those who can least afford it. True economy does not always mean saving, it more often means spending, but spending wisely that the returns may be proportionately greater.

Conservative expenditures for quality seeds are always bound to pay. Half or more of the corn in my community is grown from a few choice ears of seed that originally came from the State Corn Show in 1907. The returns have been a thousand fold and more. Intelligent use of lime, of tiles, of fertilizers, and of manures in connection with our soils will invariably bring greatly increased returns to the individual. Many times have I seen the economy of expenditures for such demonstrated beyond question. And good bulls, good boars, good rams. There is scarcely any limit to their influence for good. They are bound to

win through sheer merit along with their sisters and mothers and daughters. I hope and expect some day to see the herds of scrubs as rare on the farms of Michigan as the best of the pure breeds are now. They will mean more satisfaction, more comfort, more conveniences, more wealth; a higher type of citizenship and a bigger place in the world for Michigan agriculture.

LET THE MEMBERS KNOW

TOO many cooperative associations dealing with farmers are operated on the same principle of secrecy as lodges, with the result that their members are not aware of what is going on, and become dissatisfied and disgruntled, as should be expected from such secret management.

If members are taken into the confidence of the executive and made familiar with the workings of the organization; with its difficulties with the methods of conducting the business and the proposals for future operation, it would strengthen their loyalty and do away with a great deal of unnecessary criticism and dissatisfaction. A poultry producers' association has the right idea. In order that its shippers may be informed concerning the intimate details of the organization through which they do business, the manager of the company each month issues an auditor's financial report that gives the details of the business of the past month with the accuracy of a regular bank statement.

The statement includes detailed items under the heads of assets, liabilities, operation of business and the cost of operation. Such a statement assures the member that the finances of the organization are being properly guarded. It increases his faith in the integrity and business ability of the manager. By mailing it out to the members with their returns, but little extra postage is involved and the time spent in preparing it and in auditing the books is well worth while. Most of it would be spent on a yearly audit in any event, and by doing this monthly it is easier to keep track of the various items. The quickest way to develop the confidence of the members in the management of a co-operative association is for the latter to extend their confidence to the individual members.—E. W. G.

ANOTHER BULL EXPERIENCE

AFTER reading the farm notes by Mr. Pope, of August 5, I would like to say that we have a bull placed here by Mr. A. This man recommended him to be a very good breed bull, his six nearest testing an average of 28 lbs. butter-fat.

B., and also ten others, did not understand the reading of a pedigree and signed up to use the bull for three years at \$6.00 for each calf, and gave notes at once.

Later B. learns to read a pedigree and finds that the dam of the bull has no record. I suppose if the bull had 100 dams and only six tested it would mean his six nearest tested dams, but we all supposed it would start with his own mother. I guess we have all learned something.

Mr. A. makes a business of buying Holstein bulls and letting them out on this plan. Can anything be done about it?—Joseph Miller, Genesee Co.

HOG BREEDERS MADE HAPPY

HOG breeders of Benzie County are glad to know that the local banks have enough faith in them to pledge financial support to the Benzie County Duroc Jersey Hog Association. A tour of the county was recently made by the association members accompanied by N. Pearson, of the M. A. C., who used the opportunity to give instruction in judging.

FALL PIGS HOLD OWN IN FEED TESTS

IN a Minnesota pig-feeding experiment, it was found that spring pigs made a hundred pound gain on slightly less feed than fall pigs, but that the cost of gains was lower for the fall pigs because of cheaper feed prices during the winter. Fall pigs also sell at a higher market price than the spring farrowed ones, so on the whole are as profitable, if not more so, than those which come from the spring pig crop.

FATTENING THE CALF

ANIMAL husbandry specialist, W. H. Peters, of Minnesota Experiment Station, says that weaning, shipping, dehorning, castrating and suddenly changing the calves from grass to dry feed often checks completely any gains for three to six weeks. If any of these causes can be eliminated the checking of growth will be less. Therefore, fattening calves on the farms on which they are born should produce good results as this eliminates shipping and change of feed. The castrating should be done when the calf is young, as should also the dehorning, which should be done with a caustic. They should be started on grain in the fall before they are weaned, as they will produce greater gains with less feed than if bought on the open market in the fall.

It has been found that calves make gains almost as fast as two and three year old cattle, and will make a hundred pound gain on about two-thirds as much feed as the older cattle. They appear to grow rather than fatten for about the first one-hundred-thirty days, but from then on they accumulate fat rapidly. The average feeder of baby beef should figure on a two-hundred-day feeding period in order to make a satisfactory finish on the calf.

SUPPLEMENTARY FEED PAYS

FEEDING tests in Minnesota show that it pays to feed grain during the summer while the dairy cows are on pasture. In these tests it was found that three hundred cows fed grain while on pasture averaged 301.9 lbs. butter-fat in a year. The average feeding costs, being \$49.35. Seven hundred cows on pasture only averaged 237. lbs. butter-fat for the year. The cost being \$41.87.

The average gain from feeding extra grain was 64.3 lbs. butter-fat, which at 40c per pound would have a value of \$24.71. The increased cost of feeding summer grain was \$7.28, leaving a net gain of \$17.48.

MICHIGAN LEADS IN CHERRY PRODUCTION

WITH 9,085 tons of cherries packed by commercial canners in Michigan during the past season, this season takes first place in the production of this fruit. According to Dr. A. C. Todd, Secretary of the Michigan Canners Association, the average price paid growers for canning cherries was 6c per pound, amounting in all to \$1,090,200. Dr. Todd says the number of bearing cherry trees in Michigan has increased 13% during the last three years, and the prospects for the future of this industry is very good.



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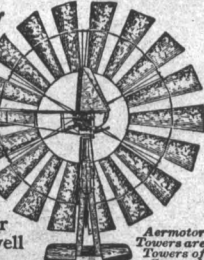
Any windmill which does not have the gears running in oil is only half oiled. A modern windmill, like a modern automobile, must have its gears enclosed and run in oil. Dry gears, exposed to dust, wear rapidly. Dry bearings and dry gears cause friction and loss of power. The Aermotor pumps in the lightest breeze because it is correctly designed and well oiled. To get everlasting windmill satisfaction, buy the Aermotor.

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Radio Department

Conducted by Stuart Seeley

TELEPHONE TRANSMITTING SETS

THE C. W. (continuous wave) or telephone transmitter is just as simple as the spark transmitter, although it is more costly. The most expensive part of a telephone transmitter is the source of high voltage for the plate current of the transmitting tube.

The simplest 'phone set is one which operates with "B" batteries for the plate supply of the tube. The parts needed for such an outfit are as follows: One coil of thirty turns of lamp cord wire, tapped every other turn, one amplifier tube with socket and rheostat, ninety to two hundred volt "B" battery, six volt "A" battery, microphone (ordinary telephone transmitter).

Connect the "A" battery, rheostat and tube in the usual manner, connect the grid to the top tap of the coil and the negative "B" battery to the bottom tap. The positive tap of the "B" battery goes to the plate. No grid condenser or grid leak is necessary in this hook-up. Connect the negative side of the "A" battery to a tap near the center of the coil. The aerial and ground are also tapped onto the coil. Wind three turns of wire into a coil just large enough to fit inside of the large inductance and connect the microphone across it.

The set is now ready for operation. The best way to test it is to listen for the voice by means of your own receiving set. Tune the set with the aerial disconnected, then try placing the aerial connector on several different taps. You will have to rely on the reports of outside receiving sets for the proper place for the aerial tap since the set is not strong enough to operate an aerial ammeter. This outfit should have a range of five miles with a 100 volt "B" battery or ten miles with 200 volts. By substituting the amplifier tube with a five watt transmitter tube and installing a motor generator set to supply 350 to 500 volts for the plate, the range will be increased to thirty or forty miles. An aerial ammeter should then be installed in the ground circuit and the set tuned to show a maximum reading.

Remember you must have a license to operate this set as well as the spark set and the wave length must be exactly 200 meters. As yet the government has made no distinction between the operators of amateur spark stations and amateur 'phone stations and even though you do not intend to use your C. W. transmitter for code work you must be able to send and receive at ten words a minute in order to operate a 'phone station.

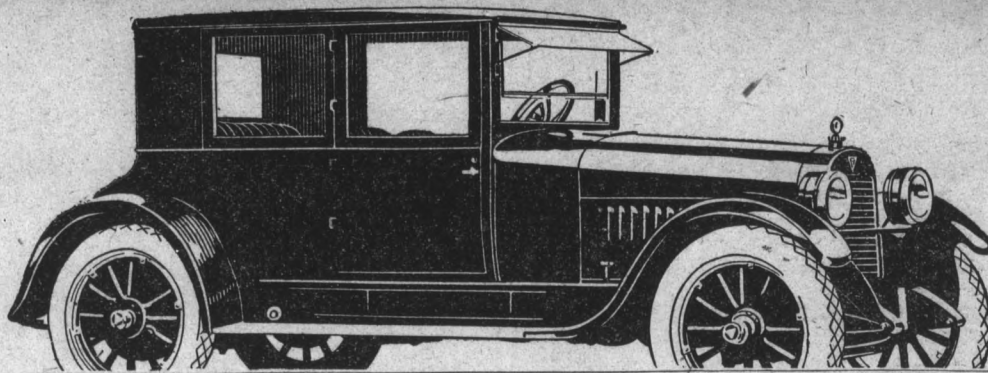
A transmitter of this description will not interfere with the reception of the broadcasting programs on 360 meters to the extent that the 200 meter spark station interferes and for that reason it may be used quite freely even while the concerts are going on. This type of transmitter may be used for inter-communications as much as you like, however, it is unlawful to use it for broadcasting music, lectures or other kinds of entertainment.

Q. What is a power amplifier?

A. It is a one or two stage amplifier which uses "hard" tubes that will stand two or three hundred volts for the plate supply.

Q. What is the Armstrong circuit?

A. Any electrical circuit which sets up oscillations by means of a vacuum tube comes under Armstrong Pat. No. 1113149 and is called an Armstrong circuit. An ordinary regenerative receiving set comes under this classification.



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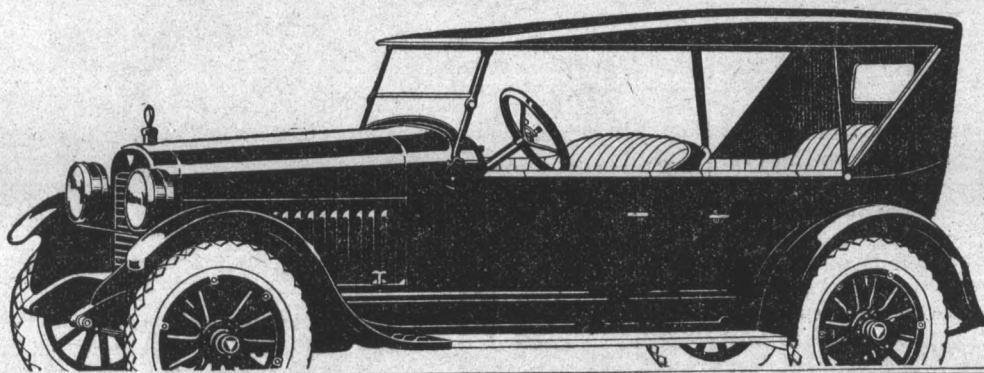
No words can convey its charm. You must take a ride to discover its wonderful difference. Your dealer will gladly arrange to take you for a drive.



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Coach	- - -	1745
Sedan	- - -	2295
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From 10-Day Trial. Cuts new ditches or cleans old ones down to 4 ft. Builds best field terraces, dykes, levees. Horses or tractor. Works in any soil. Great money-saving story for you now. Do not take chances on loss of crops. Write, Owensboro Ditcher & Grader Co., Box 515 Owensboro, Ky.

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Pleasant home and 30 acres overlooking lake; stores, schools, churches, depot handy; wood to sell during coming coal-short winter, heavy cropping tillage. 200-bbl. apple orchard, acre strawberries; good 2-story house, barn, poultry house, etc. Owner called away \$4000 less than value buildings, gets it, team, cows, sheep, hogs, poultry, auto truck, full implements and if taken now 14 A. rye, 4 1/2 A. potatoes, vegetables, berries included, only \$1200 needed. Details page 115 Big Bargain Catalog FREE. STROUT FARM AGENCY, 814 BC Ford Bldg., Detroit, Mich.

160 Acres For Quick Start 8 Cattle, 3 Horses, 76 Sheep

Hogs, poultry, 4 acres beans, oats, hay, stove wood, vehicles, machinery, tools included if taken now; great future prospects; convenient RR town; city markets; 100 acres fertile tillage; 62 apple, pear, plum, peach, cherry trees; small fruits; pleasantly situated 8-room house; 40-ft. barn, sheep shed. Owner unable operate. \$8500 takes all, easy terms. Catalog Free, Mathieson & Kinsman, Strout Farm Agency, Oxford, Mich.

Must Be Sold before October first. Owner going away. 200 acre, fully equipped dairy farm. Convenient to Detroit and Toledo, schools, colleges, and university over good roads. Farm divisible into two good homes and sets of buildings. Herd registered Holsteins, government accredited, producing Class A milk for local trade and Detroit hospitals. 60 acres seeded to alfalfa. Will sell either with or without stock and equipment on reasonable terms. Address Owner Lock Box 585, Ypsilanti, Mich.

MICHIGAN DAIRY FARM

240 acres level, dark loam, near Gladwin, Mich. Spring-watered pastures, flowing well, two dwellings, plenty of other buildings. \$12,000 with \$3,000 cash down, balance long time 6%. No trades. Full description on application. 50 other farms. U. G. REYNOLDS, Owner, Gladwin, Mich.

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

FOR SALE: Ideal Dairy Farm

270 ACRES in Cloverland, Mich. 100 acres under the plow, balance in second growth timber. Water running through place. Buildings include 5-room house, large barn, poultry house, granary, root-house, large toolhouse, pignoise. Stock includes 10 cows, 2 horses, 4 brood sows, 1 boar, 75 chickens, 10 turkeys, 10 ducks, 5 geese, hay, grain and farm tools. Seven miles from three towns of 15,000 population each. Tar macadam roads from farm into each town. Milk selling at 10c per quart and sell all you can produce. Will sell farm complete with stock at \$50 per acre, part cash, balance on easy terms, or will take city property in exchange. WILLIAM DORRIS, Marquette, Mich.

For Sale. Fine 200 acre southern Mich. farm, one mile to city on state trunk line, modern bldg., 300 loads of grain and feed, 30 head cattle, 5 horses, tractor and all farm tools. Fine gentleman's home. Price for everything \$32,000 would consider house in city or small farm. Owner. Box 1013, Michigan Farmer, Detroit, Mich.

For Sale "The Lehnendorff Farm"; 240 Acres, located only three miles from Rogers City, on Main M-10 Dixie Highway. Orchard nine years old, 800 Apple and 60 Cherry trees, 75 Acres well cleared, 60 acres green hardwood timber, good water. A. F. LEHNENDORFF, Rogers City, Mich.

Wanted 20 Farmers to buy good irrigated land Lettuce, Celery, Cabbage, Cauliflower, Sugar Beets and Alfalfa. \$80.00 to \$100.00 per acre, terms. W. H. WOLFE, Colmar, Colfax County, New Mexico.

For Sale, 120 acres of good loamy soil all under cultivation. Well drained, well fenced, large barns and silo, tool shed, large frame house, water in barn and house. For more particulars write Mrs. BRUCE WILSON, Marlette, Mich.

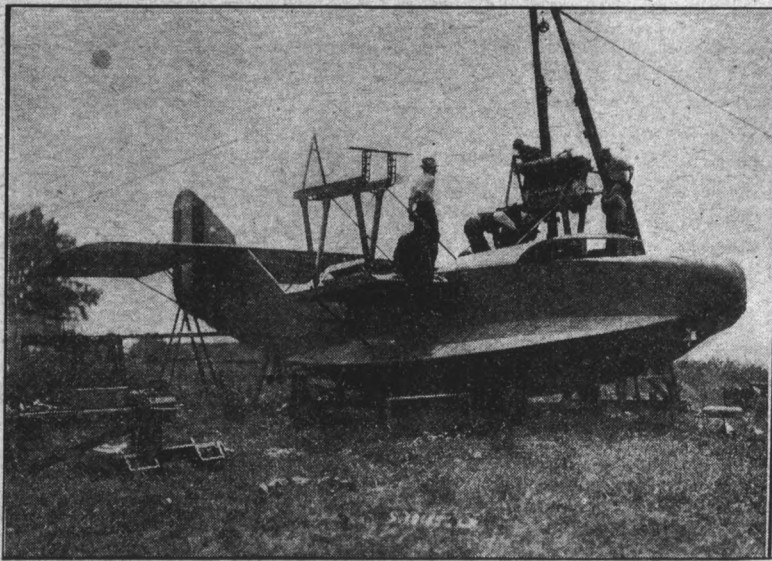
FOR Sale 160 A. 100 A. cleared, orchard, good well, frame house, basement barn, silo, good pasture creek watered, plenty wood 4 1/2 mi. county seat, bargain. Particulars address A. M. Denniston, Reed City, Mich.

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WORLD EVENTS IN PICTURES



"Whistling Jack" returns to dresses after eight years as a boxer, gangster and truck driver.



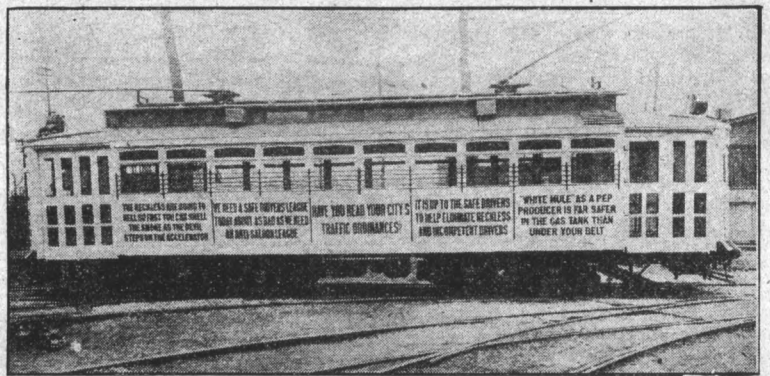
The flying cruiser in which Dr. Martins of the Brazil navy and U. S. Lt. Walter Hinton will fly from New York to Brazil and up the Amazon for a thousand miles.



G. T. Simons, a prosperous Iowa farmer, sails for Germany to see the Oberammergau Passion Play.



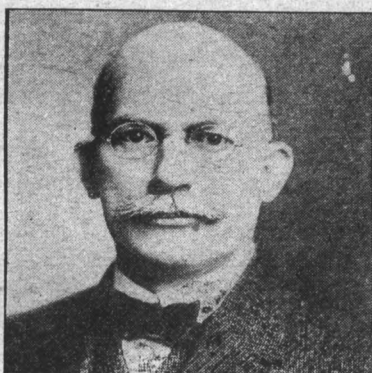
How is this for a summer picture? These ski stars hold mid-summer tournament on Mt. Ranier, the only place where skiing can be held in summer.



This car was used in the Safety First campaign in East St. Louis, Illinois. The messages it carries have been effective in decreasing auto accidents in that town.



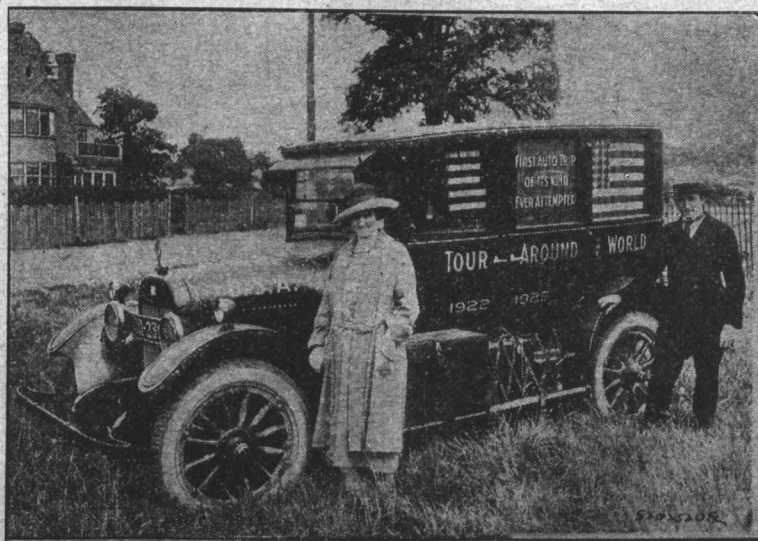
Fred Plaisted, age 72, defeated J. H. Riley, 78 years old, in a professional sculling exhibit.



Chas. W. Bryan succeeds his brother, Wm. Jennings, as the silver-tongued orator of Nebraska.



Columbia University has Mrs. A. P. Crawford, aged 71, as a summer student in philosophy and literature.



A honeymoon auto tour around the world is planned by Mr. and Mrs. R. J. Jeffries. He will write their experiences while Mrs. Jeffries will give musical entertainments to pay their way.



Thirty-seven were killed and many injured when the fast passenger Iron Mountain line train ignored a block signal and ran into a freight train standing on the main track.

THE CROSS-CUT —By Courtney Ryley Cooper

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What Has Happened So Far:

After the death of Thornton Fairchild, an aged miner of Cripple-creek district, Robert Fairchild, his son, reads a letter. From this he learns of the Blue Poppy mine coming into his possession, but nothing of the mystery and silence that surrounded his father's days. He interviews his attorney and leaves immediately for the west to claim the property. Upon arriving he cannot help but feel the mystery and illusive nature of the situation. Even Mother Howard, his father's old friend, seems to hold something back. Squint Rodaine and gang work against Fairchild. A strange friendship grows between Anita Richmond, whose father is in the clutches of Squint Rodaine, and Fairchild. Maurice Rodaine is in love with Anita Richmond. Harry Hawkins, an old friend of Fairchild's father, arrives to aid in the prospecting. By an extraordinary plan Harry manages to get the mine unwatered. At an old-fashioned dance Fairchild meets Anita Richmond again and they have several dances together, much to the annoyance of young Rodaine. A real hold-up is staged and one injured. Young Rodaine swears the guilty party to be Harry Hawkins.

Trouble For Harry and Fairchild

"I don't believe it!" Anita Richmond exclaimed with conviction and clutched at Fairchild's arm. "I don't believe it!"

"I can't!" Robert answered. Then he turned to the accuser. "How could it be possible for Harry to be down here robbing a dance hall when he's out working the mine?"

"Working the mine?" This time it was the sheriff. "What's the necessity for a day and night shift?"

The question was pertinent—and Fairchild knew it. But he did not hesitate.

"I know it sounds peculiar—but it's the truth. We agreed upon it yesterday afternoon."

"At whose suggestion?"

"I'm not sure—but I think it was mine."

"Young fellow," the sheriff had approached him now, "you'd better be certain about that. It looks to me like that might be a pretty good excuse to give when a man can't produce an alibi. Anyway, the identification seems pretty complete. Everybody in this room heard that man talk with a Cousin Jack accent. And Mr. Rodaine says that he saw his face. That seems conclusive."

"If Mr. Rodaine's word counts for anything."

The sheriff looked at him sharply. "Evidently you haven't been around here long." Then he turned to the crowd. "I want a couple of good men to go along with me as deputies."

"I have a right to go." Fairchild had stepped forward.

"Certainly. But not as a deputy. Who wants to volunteer?"

Half a dozen men came forward, and from them the sheriff chose two. Fairchild turned to say good-by to Anita. In vain. Already Maurice Rodaine had escorted her, apparently against her will, to a far end of the dance hall, and there was quarreling with her. Fairchild hurried to join

"Ey yourself!" It was Harry's voice.

"Come out—and be quick about it. Hold your light in front of your face with both hands."

"The 'ell I will! And 'oo's talking?"

"Sheriff Adams of Clear Creek County. You've got one minute to come out—or I'll shoot."

"I'm coming on the run!"

And almost instantly the form of Harry, his acetylene lamp lighting up

back, with a look of conjecture.

"Well," he demanded, "what did you do with the proceeds?"

"The proceeds?" Harry stared blankly. "Of what?"

"Quit your kidding now. They've found your horse down there."

"Wouldn't it be a good idea—" Fairchild had cut in acridly—"to save your accusations on this thing until you're a little surer of it? Harry hasn't any horse. If he's rented one, you ought to be able to find that out pretty shortly."

As if in answer, the sheriff turned and shouted a question down the mountain side. And back came the answer:

"It's Doc Mason's. Must have been stolen. Doc was at the dance."

"I guess that settles it." The officer reached for his hip pocket. "Stick out your hands, Harry, while I put the cuffs on them."

"But 'ow in bloody 'ell 'ave I been doing anything when I've been up 'ere working on this chiv wheel? 'Ow—?"

"They say you held up the dance tonight and robbed us," Fairchild cuts in. Harry's face lost its surprised look, to give way to a glance of keen questioning.

"And do you say it?"

"I most certainly do not. The identification was given by that honorable person known as Mr. Maurice Rodaine."

"Oh! One thief identifying another—"

"Just cut your remarks along those lines."

"Sheriff!" Again the voice from below.

"Yeh!"

"We've found a cache down here. Must have been made in a hurry—two new revolvers, bullets, a mask, a couple of new handkerchiefs and the money."

Harry's eyes grew wide. Then he stuck out his hands.

"The evidence certainly is piling up!" he grunted. "I might as well save my talking for later."

"That's a good idea." The sheriff snapped the handcuffs into place. Then Fairchild shut off the pumps and they started toward the machine. Back in Ohadi more news awaited them. Harry, if Harry had been the highwayman, had gone to no expense for his outfit. The combined general store and hardware emporium of Gregg Brothers had been robbed of the articles necessary for a disguise—also the revolvers and their bullets. Robert Fairchild watched Harry placed in the solitary cell of the county jail

Dobbin at the Fair

By M. B. R.

Poor old Dobbin at the fair,
Shining, sleek, in ev'ry hair,
Neatly groomed from head to tail
Yet how little the avail!

Once he entered head on high,
Admiration of each eye,
Now he comes with drooping ears
At the laughter, jests and jeers,
As the dashing autos go
Thru the gates of county show.

And alas! what has he done
That he should be the butt of fun?
Fat and "comfy," good to see,
As of yore, yet, somehow, he
Doesn't feel just quite at home
Where the whirling autos come;
Like cat in strange garret there,
Poor old Dobbin at the fair.

Once he held proud reputation
Of best fam'ly horse around,
And he felt in all the nation
Not the equal could be found,
Of his pretty, gracious lady,
Who held the reins just as she should,
By each neat manipulation
Showing gentlewoman's blood.

Now a hot tide thru him courses
To his brain, for wellbred horses
Feel the stigma and the shame,

When low-bred people make them
game;

And he hears a "female" gay
In yonder auto coarsely say,
"See, oh see, that 'one-hoss shay'!"
Like a fossil Dobbin feels
When the boisterous laughter peals,
And he sees her pointing there
To his turnout at the fair.

Yes, indeed, like a back number,
Poor heart broken, Dobbin feels,
And he knows he ne'er can lumber
Past those flashing, dashing wheels;
Worst of all to see his lady,
Laughing-stock of latter day,
And he hopes he may not cumber
This old earth long, anyway.

But presto, change! New "pep" and
courage
Breaks in on his doleful dream,
They are passing—famous judges—
Gentlemen of old regime.
They lift their hats high to his mistress;

Pat his flanks as on they go,
Saying, "Yes, a true fine lady,
Debts all paid, and nothing shady
In her life, as all well know."
And so with head high in the air,
Proudly Dobbin leaves the fair.

the sheriff and his two deputies, just starting out of the dance hall. Five minutes later they were in a motor car, chugging up Kentucky Gulch.

The trip was made silently. There was nothing for Fairchild to say; he had told all he knew. Slowly, the motor car fighting against the grade, the trip was accomplished. Then the four men leaped from the machine at the last rise before the tunnel was reached and three of them went forward afoot toward where a slight gleam of light came from the mouth of the Blue Poppy.

A consultation and then the creeping forms made the last fifty feet. The sheriff took the lead, at last to stop behind a boulder and to shout a command:

"Hey you, in there."

his bulbous, surprised countenance with its spraylike mustache, appeared at the mouth of the tunnel.

"What the bloody 'ell?" he gasped, as he looked into the muzzle of the revolver. From down the mountain side came the shout of one of the deputies:

"Sheriff! Looks like it's him, all right. I've found a horse down here—all sweated up from running."

"That's about the answer." Sheriff Adams went forward and with a motion of his revolver sent Harry's hands into the air. "Let's see what you've got on you."

A light gleamed below as an electric flash in the hands of one of the deputies began an investigation of the surroundings. The sheriff, finishing his search of 'Arry's pockets, stepped

AL ACRES—Al's Nephew Tries To Get Some Inside Information

—By Frank R. Leet.



with a spirit that could not respond to the Cornishman's grin and his assurances that morning would bring a righting of affairs. Four charges hung heavy above him: that of horse-stealing, of burglary, of highway robbery, and worse, the final one of assault with attempt to kill. Fairchild turned wearily away; he could not find the optimism to join Harry's cheerful announcement that it would be "all right." The appearances were otherwise. Besides, up in the little hospital on the hill, Fairchild had seen lights gleaming as he entered the jail, and he knew that doctors were working there over the wounded body of the fiddler. Tired, heavy at heart, his earlier conquest of the night sodden and overshadowed now, he turned away from the cell and its optimistic occupant,—out into the night.

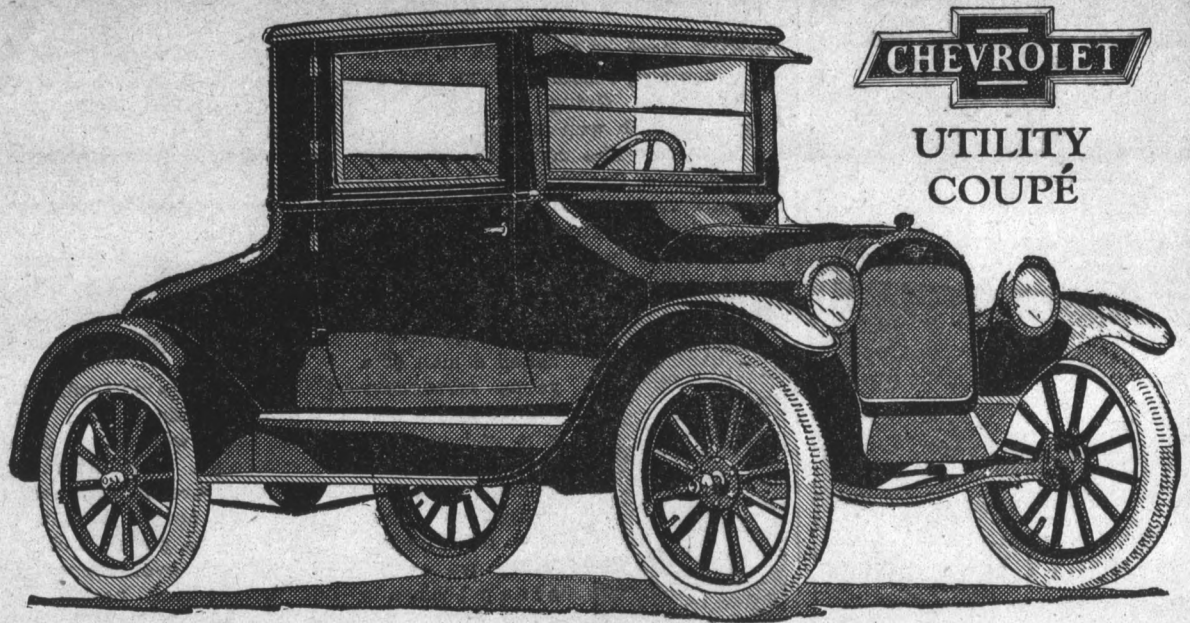
It was only a short walk to the hospital and Fairchild went there, to leave with at least a ray of hope. The probing operation had been completed; the fiddler would live, and at least the charge against Harry would not be one of murder. That was a thing for which to be thankful; but there was plenty to cause consternation, as Fairchild walked slowly down the dark, winding street toward the main thoroughfare. Without Harry, Fairchild now felt himself lost. Before the big, genial, eccentric Cornishman had come into his life, he had believed, with some sort of divine ignorance, that he could carry out his ambitions by himself, with no knowledge of the technical details necessary to mining, with no previous history of the Blue Poppy to guide him, and with no help against the enemies who seemed everywhere. Now he saw that it was impossible. More, the incidents of the night showed how swiftly those enemies were working, how sharp and stiletto-like their weapons.

That Harry was innocent was certain,—to Robert Fairchild. There was quite a difference between a joke which a whole town recognized as such and a deliberate robbery which threatened the life of at least one man. Fairchild knew in his heart that Harry was not built along those lines.

Looking back over it now, Fairchild could see how easily Fate had played into the hands of the Rodaines, if the Rodaines had not possessed a deeper concern than merely to seize upon a happening and turn it to their own account. The highwayman was big. The highwayman talked with a "Cousin-Jack" accent,—for all Cornishmen are "Cousin Jacks" in the mining country. Those two features in themselves, Fairchild thought, as he stumbled along in the darkness, were sufficient to start the scheming plot in the brain of Maurice Rodaine, already ugly and evil through the trick played by Harry on his father and the rebuke that had come from Anita Richmond. It was an easy matter for him to get the inspiration, leap out of the window, and then wait until the robber had gone, that he might flare forth with his accusation. And after that—

Either Chance, or something stronger, had done the rest. The finding of the stolen horse and the carelessly made cache near the mouth of the Blue Poppy mine would be sufficient in the eyes of any jury. The evidence was both direct and circumstantial. To Fairchild's mind, there was small chance for escape by Harry, once his case went to trial. Nor did the pounding insistence of intuitive knowledge that the whole thing had been a deliberately staged plot on the part of the Rodaines, father and son, make the slightest difference in Fairchild's estimation. How could he prove it? By personal animosity? There was the whole town of Ohadi to testify that the highwayman was a big man, of the build of Harry, and that he spoke with a Cornish accent.

(Continued on page 235)



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The Lowest Priced High Grade Closed Car

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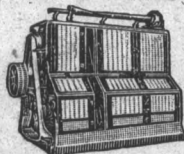
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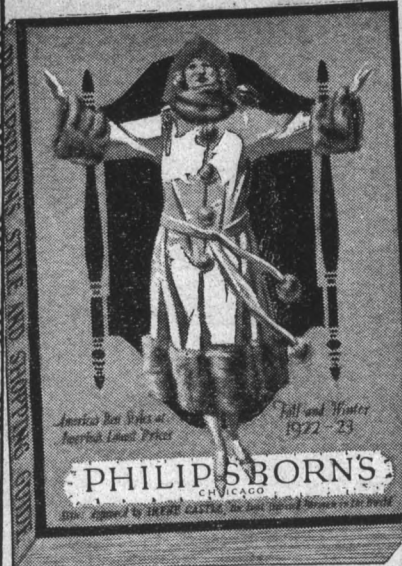
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A Revival on a Rubbish Heap

Our Weekly Sermon—By N. A. McCune

THE story of Nehemiah is one of courage, resourcefulness and devotion. Going out to do his duty, Nehemiah won an undying name for himself. The root of the story, you will note, lies in Nehemiah's deep religious nature. His love for the ruined city of Jerusalem was so great that he could not rest, so long as no efforts were made for its restoration.



"Why do you want to go back?" asked a man of a young missionary some years ago, who had been invalided home. "Because I cannot sleep, for thinking of them." When we cannot sleep because a great need presses on us, we usually are aroused to fruitful action.

The vision, which this courageous man had, was of a rebuilt city. For years it had lain a place of desolation, with poor families dwelling hard by, some living in the midst of the ruins. Behind was a noble history. Behind was the capitol where David had lived, where Solomon had reigned and had built the most wonderful house of worship in the world; where good kings like Hezekiah had executed the laws, and brave young kings like Josiah had been aroused to the work of reform. There Isaiah had spoken his words of warning to the people, and there his prophecies had been written that should be the treasure of the people of God for centuries to come. But all this was past. And the present? A city laid waste by the sword and spear of the conqueror, by fire and pillage. Nehemiah said it must not be. God's very honor was involved in the condition in which Jerusalem now lay. It was the holy city. When David had

brought up the ark to Jerusalem the people had sung, "Lift up your heads, O ye gates; and be ye lifted up, ye everlasting doors, and the king of glory shall come in." And the answering chorus had sung, "Who is the King of glory?" And once more the people had sung in reply, "Jehovah, strong and mighty, Jehovah, mighty in battle." But now, there was no glory there. The glory had departed. Nehemiah said, it must not be.

BUT when he arrived, with his fellow-enthusiasts and his military guard, there were many difficulties to be overcome. For one thing, certain non-Jews were determined that the city should not be rebuilt. They did not want the power and prestige of Jerusalem to overshadow them, as it had neighboring nations in former times. They laid deep plots to frustrate the work of building. They came and attempted to interrupt the work. They sent messengers inviting Nehemiah to come to see them, on important business. Five of such invitations were sent. But Nehemiah was too shrewd. "I am doing a great work," he notified them, in words which have become famous, "I am doing a great work, so that I cannot come down." Then the adversaries tried another tack. They used ridicule, and ridicule is a very keen weapon. Said they: "What are these feeble Jews doing?" "Will they revive the stones out of the heaps of rubbish?" And one of them added that if a fox went up on the wall, which had been built, it would break down. But still Nehemiah kept on. He was that kind. To make doubly sure that he was not taken by surprise, he armed his workmen. In fact a military organization was pretty well perfected. "And it came to pass from that time forth, that half of my servants wrought in the work, and half of them held the

spears and shields, and the bows and the coats of mail." "And the builders, every one, had his sword girded by his side, and so builded." "So we wrought in the work: and half of them held the spears from the rising of the morning till the stars appeared." (No eight-hour day there!) And in fifty-two days the wall was done.

NEHEMIAH was one of those leaders who unite faith and works. He prayed as he worked. Prayer does not take the place of work. But prayer lightens work, and makes it more efficient and relishable. "But we made our prayer unto our God, and set a watch against them day and night." One of the most successful generals of the Civil War, on the confederate side, was Stonewall Jackson. As a youth, in West Point Military Academy, he had adopted two mottoes: "You may be whatever you resolve to be," and, "I can do all things thru Christ which strengtheneth me." In the confederate army he was known as the praying general. He was one of the most brilliant fighters this country has produced. Tall and raw-boned, he rode a sorrel horse, which his men said, "could not run except toward the enemy." He had regular prayer-meetings at headquarters. In his earlier days, we are told, while he was an instructor in military science, he had developed the habit of constant prayer. When he dropped a letter in the mail-box he offered a silent prayer for the one to whom it was sent, and when he received a letter, he prayed for the one who sent it. Prayer, in Jackson's case, did not take the place of fighting. He was relentless in his preparations for a conflict. But it gave a new spirit to the whole thing. His men idolized him.

ON the other side of the great conflict, was General O. O. Howard, who was also a praying man. He lost a hand in battle. After the war was over, he was raising money for a negro school in the south. The stump of his arm greatly pained him. Oft times, when in a crowd, some one would bump against his arm, causing shooting pain. General Howard said this would greatly irritate him, and he feared that he would grow into a peevish, grum, old man. He resolved to pray for all he met, especially for those who unintentionally hurt his arm. This grew on him, until he prayed for all persons who came to see him. "God bless him," was constantly in his thoughts. So much for modern editions of Nehemiah. New editions are greatly needed.

A splendid book has lain on my table for several weeks, "The Direction of Human Evolution," by Professor Conklin (Scribners, New York). (Don't be afraid of the title, it won't hurt. The author is a decided Christian.) He says that there has been no change in the physical make-up of man for three thousand years. Physically, man is complete. But the evolution now going on is in Man's social life. Society is changing, and there is to be a new application of religion to all social life. Religion is to revolutionize modern life, if applied. He says Proverbs is right: "out of the heart are the issues of life."

SUNDAY SCHOOL LESSON FOR SEPTEMBER 3

SUBJECT:—Nehemiah Rebuilds the Walls.

LESSON:—Neh. 3.1 to 7.4.

GOLDEN TEXT:—Our God will fight for us. Neh. 4.20.

Michigan Farmer Pattern Service

4050—Ladies' Dress. Cut in 6 sizes: 34, 36, 38, 40, 42 and 44 inches bust measure. A 38 inch size requires 5½ yards of 32 inch material. The width of the skirt at the foot is 2¾ yards. Price 12c.

3640-4046—A Good "Sports" Costume. Blouse 3640 cut in 4 sizes: 34, 36, 38, 40, 42, 44 and 46 inches bust measure. It will require 3¾ yards of 36 inch material for a medium size. Skirt 4046 is cut in 7 sizes: 25, 27, 29,



31, 33, 35 and 37 inches waist measure. A 29 inch size will require 4¾ yards of 40 inch material. With plaits extended lower edge of skirt measures 3¾ yards. Two separate patterns, 12c for each pattern.

3848—Ladies' House Dress. Cut in 7 sizes: 34, 36, 38, 40, 42, 44 and 46 inches bust measure. A 38 inch size requires 5 yards of 36 inch material. The width of the skirt at the foot is about 2 yards. Price 12c.

4068—Ladies' Apron. Cut in 4 sizes: Small, 34-36; medium, 38-40; large, 42-44, and extra large, 46-48 inches



bust measure. A medium size requires 4½ yards of 27 inch material. Price 12c.

3996—Girls' Dress. Cut in 4 sizes: 6, 8, 10 and 12 years. A 10 year size requires 3¾ yards of 32 inch material. Price 12c.



4000—Girls' Dress. Cut in 4 sizes: 8, 10, 12 and 14 years. A 12 year size requires 3¾ yards of 36 inch material. Price 12c.



Send all orders to

The Michigan Farmer,

Detroit, Mich.

THE CROSS-CUT

(Continued from page 233)

The world was far from bright. Down the dark street the man wandered, his hands sunk deep in his pockets, his head low between his shoulders,—only to suddenly galvanize into intensity, and to stop short that he might hear again the voice which had come to him. At one side was a big house,—a house whose occupants he knew instinctively, for he had seen the shadow of a woman, hands outstretched, as she passed the light-strewn shade of a window on the second floor. More, he had heard her voice, supplemented by gruffer tones. And then it came again.

It was pleading, and at the same time angered with the passion of a person approaching hysteria. A barking sentence answered her, something that Fairchild could not understand. He left the old board sidewalk and crept to the porch that he might hear the better. Then every nerve within him jangled, and the black of the darkness changed to red. The Rodaines were within; he had heard first the cold voice of the father, then the rasping tones of the son, in upbraiding. More, there had come the sobbing of a woman; instinctively Fairchild knew that it was Anita Richmond.

It was her voice, high, screaming. Hysteria had come,—the wild, racking hysteria of a person driven to the breaking point:

"Leave this house—hear me! Leave this house! Can't you see that you're killing him? Don't you dare touch me—leave this house! No—I won't be quiet—I won't—you're killing him, I tell you—!"

And Fairchild waited for nothing more. A lunge, and he was on the veranda. One more spring and he had reached the door, to find it unlocked, to throw it wide and to leap into the hall. Great steps, and he had cleared the stairs to the second floor.

A scream came from a doorway before him; dimly, as through a red screen, Fairchild saw the frightened face of Anita Richmond, and on the landing, fronting him angrily, stood the two Rodaines. For a moment, Fairchild disregarded them and turned to the sobbing, disheveled little being in the doorway.

"What's happened?"

"They were threatening me—and father!" she moaned. "But you shouldn't have come in—you shouldn't have—"

"I heard you scream. I couldn't help it. I heard you say they were killing your father—"

The girl looked anxiously toward an inner room, where Fairchild could see faintly the still figure of a man outlined under the covers of an old-fashioned four-poster.

"They—they—got him excited. He had another stroke. I—I couldn't stand it any longer."

"You'd better get out," said Fairchild curtly to the Rodaines, with a suggestive motion toward the stairs. They hesitated a moment and Maurice seemed about to launch himself at Robert, but his father laid a restraining hand on his arm. A step and the elder Rodaine hesitated.

"I'm only going because of your father," he said gruffly, with a glance toward Anita.

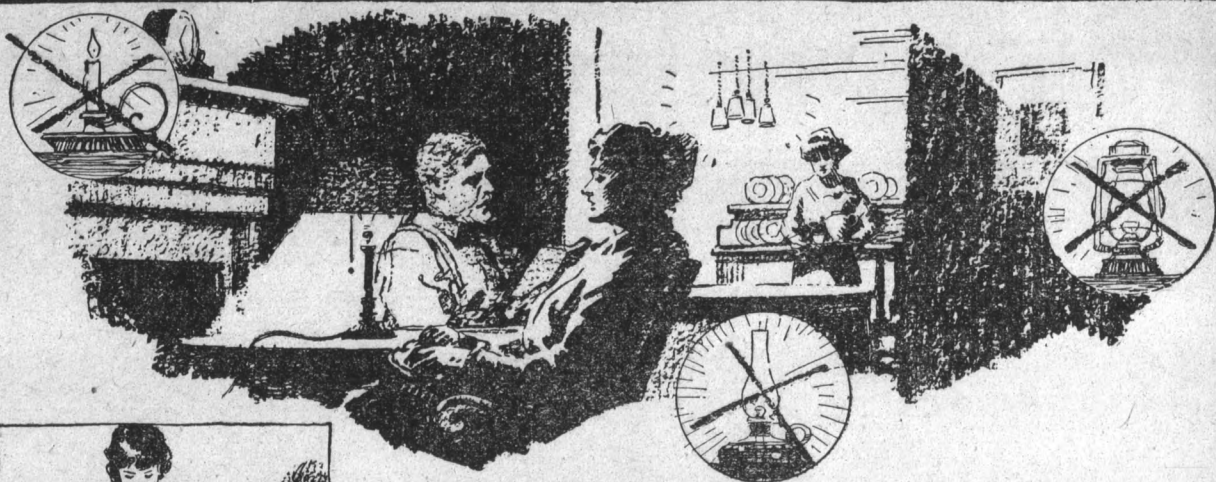
Fairchild knew differently, but he said nothing. The gray of Rodaine's countenance told where his courage lay; it was yellow gray, the dirty gray of a man who fights from cover, and from cover only.

"Oh, I know," Anita said. "It's—it's all right. I—I'm sorry. I—didn't realize that I was screaming—please forgive me—and go, won't you. It means my father's life now."

"That's the only reason I am going; I'm not going because—"

(Continued next week)

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You wouldn't use a tallow-dip. But isn't it a fact that all convenience, economy, and safety you get with WILLYS LIGHT puts the kerosene lamp on the shelf with the candles? Write us for the name of WILLYS LIGHT dealer near you and for free catalog of facts. Address Dept. 232.

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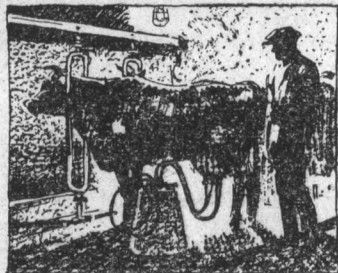
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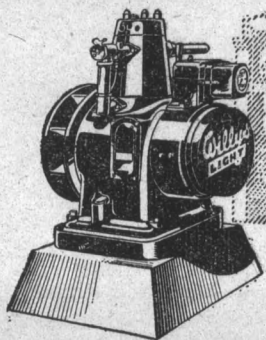
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Woman's Interests



Whereabouts of the Kitchen Sink

Plan Its Location and Height as to Convenience

CERTAIN it is that the sink is one of the biggest savers of time, strength, and labor in the home—when properly located—and one of the greatest burdens when missing or of the wrong type.

Strange as it may seem, the recent investigation of farm home conditions of the Department of Agriculture shows that thousands of women are struggling along with no sink at all or, at best, a very poor and badly placed one.

The size of the family and of the kitchen determines the size of the sink, but a short sink with ample table and shelf room near it may be more convenient than a long sink. Two smaller sinks, one for the table dishes near the dining room and the other for general use in the kitchen, are very convenient.

The material should be the best available, non-absorbent of grease as well as of moisture, and there should be no cracks or square corners to increase the work of keeping it clean. A wooden sink, even when it receives an annual coat of paint, will absorb moisture and grease which attracts insects, and is likely to be swarming with bacteria and to "sour" and have an unpleasant odor. Even drainboards of wood are not best, unless they have a waterproof finish of varnish, oil or paint. If a wooden sink is necessary, it is better to have it metal lined, provided the sheets of metal, which is usually tin, zinc, galvanized iron, copper or lead, are soldered where they are joined and all parts of the sink, including the tops of the sides, are covered with the metal, so that there is no chance for the wood to absorb moisture. Another plan is to have a cement sink built into a wooden frame and lined with sheet copper or tin to make a smooth surface.

Enameled-iron sinks are smooth, last well with careful use, and may be easily kept clean, but they are more expensive than iron. Porcelain sinks are similar to the enameled ones, but their price is almost prohibitive. Perhaps the ideal plan, if cost is not to be considered, would be to have an enameled or porcelain sink for the tableware in the kitchen or pantry near the dining room and an iron sink or soapstone sink for the heavier kitchen ware.

The double sinks, with one basin for washing and another for draining dishes, are very convenient, but unfortunately they are relatively expensive. A small sink with a rubber stopper for its escape pipe may be used as a dish pan.

If possible there should be a wide shelf or drain board on each side of

the sink on the level with the rim of the latter, one to receive soiled dishes and the other clean ones. Some housekeepers have these covered with zinc. As in all other places where it is used, the metal must be neatly fitted and closely fastened down, so as not to leave any chance for loose, rough edges, or to provide breeding places for insects or a lodging place for grease and dirt.

If there is no place for permanent drain boards, sliding or hinged shelves

may be used. A right-handed person usually holds the dish in the left hand while washing or wiping it, and the dishcloth, dish mop, or towel, in the right hand. It is convenient, therefore, to have the dishes move from right to left as they pass from dishpan to rinsing pan, and from rinsing pan to drainer and tray. They should be kept in mind and provision made for soiled dishes at right and for a drain board at the left of the sink.

E. W. G.

The next row is 1 short stitch into point, 3 ch, 1 tr in third tr; 3 ch, 1 tr in first ch; 3 ch, 1 tr in point. Next four rows are long stitch and chain in every other stitch. For the last row, 2 short stitches in first three holes, and only one in every fourth hole.

This pattern was taken from our Needlecraft Book, No. 41, which contains a number of other pretty patterns, and can be had by sending 15 cents to Michigan Farmer, Detroit, Mich. Also better send another 15 cents for Needlecraft Book, No. 10, which gives full directions, plainly illustrated, for making all kinds of crochet stitches.

"Modesty"

I AM not an antediluvian, I do not even date back to the day of wasp waists and trailing skirts. I never owned but one corset, which I wore a few times and discarded as the most uncomfortable thing imaginable next to high heels. As for prudes, they don't grow in our county. The Lord blessed me with normal eyesight and being a descendant of Eve, I have a knowledge of good and evil.

God forbid that I should put an evil thought in the heart of any girl.

There are many fine women and beautiful girls whose good taste and sense of refinement will not allow them to follow the extreme of any fashion, but there are also a great multitude who make the styles more extreme as do the women of the underworld.

A nation is judged by the dress and mannerisms of its women. Anything that lowers our morals is a menace to our nation. The girls of today are the women of tomorrow and if they are so innocent as not to know where certain acts lead, it is high time they were warned.

I'll tell you right here, my definition of a "prude." It is a woman—be it mother, sister, or friend—who is too modest (?) to tell these girls, the majority of whom desire to do right, the things every girl should know to protect her virtue. She is bound to learn facts some time and somewhere, and if she learns them through suffering and shame, mother is largely to blame.

I believe in the same standard of purity for both sexes. I love to see boys and girls comrades in the real sense of the word, but there is too much so-called frankness displayed to keep any degree of dignity.

I wish if you have not already done so, you would read "The Day of the Beast," by Zane Grey, and "Her Father's Daughter," by Gene Stratton Porter.

Modesty, fair flower

To woman given

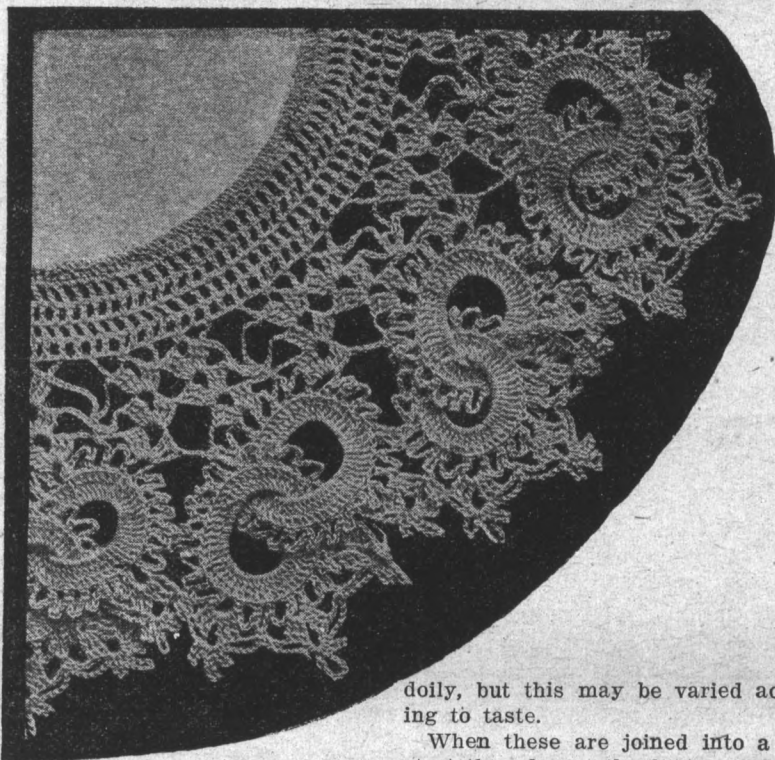
In Eden's bower—

A gift from Heaven.

—Mrs. B. O. R.

Make a Twin-Loop Doily

This Tells You How



Explanations.—Ch means chain stitch (pull loop through the one on hook); sc, single crochet (with one loop on hook, pull loop through both the designated stitch of preceding row and the loop on hook); dc, double crochet (pull loop through stitch, then thread over hook and pull through both loops on hook); tr, treble crochet (thread over hook, put hook through designated stitch and pull the loop through, which gives four loops on hook, thread over hook and through two loops, thread over hook and through remaining two loops); (short stitch, sc; long stitch, tr.)

Use crochet cotton No. 50.

Ch 25, join in a loop; ch 4, work 45 tr in loop; slip stitch into first, 6 ch and 1 short stitch in every other treble. Fasten off neatly. Repeat loop, threading the 25 ch thru first loop and then joining into a second loop, and make sufficient of these double loops to form doily. These double loops should be joined to each other by two of the little outside loops of the bottom big loops to two of the little loops of the top big loop of the next twin loop. Sixteen of these twin loops will be found a convenient number for a

doily, but this may be varied according to taste.

When these are joined into a ring, start the edge at the bottom. On the second loop from the joining, 1 short stitch, 3 ch, 3 long stitches into next but one loop; 3 ch, and 3 long stitches into same loop; 3 ch, short stitch into next loop but one.

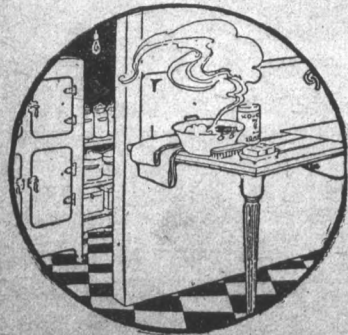
Repeat twice; then place another short stitch in the upper twin loop at the fourth little loop from joining; ch 3, and 3 long stitches; 3 ch, 3 long stitches into next loop but one; short stitch into next lower twin loop in the second little loop from joining. Continue around the row. For the last row into each hole between the long stitches put 1 short stitch; 6 ch, 1 short stitch; 9 ch, 1 short stitch; 6 ch, 1 short stitch; then ch 9 and short stitch into the short stitch between the points; 9 ch, and continue throughout row.

For the Heading—Put 3 tr, 3 ch, and 3 tr in fourth loop from the joining; 3 ch, short stitch in next loop but one, 3 ch. Repeat; 3 ch. Continue the row.

2nd Row—Tr 3, 3 ch, 3 tr in point, then ch 6 and short stitch in short stitch of last row; 6 ch. Repeat point, and then without any chain, go on with next point in the next hole. Continue throughout the row.

3rd Row—Is a repetition of the second, only with 9 ch instead of 6.

Squash Cakes—Boil, mash and cool two pumpkins, season with salt, pepper and a grate of nutmeg, add two cupfuls of cream, three tablespoonfuls of butter, two beaten eggs, a pinch of powdered cloves, and enough flour sifted with one teaspoonful of baking powder, to make a smooth batter. Mix and fry on a hot greased griddle. Serve with butter and milk.—Miss H. A. L.



Preparation of the School Luncheon

NOW that it is again time to start fixing the children a cold noon-day lunch, intended to take the place of dinner, we must be very careful and particular that this lunch is as nourishing as it should be. When we adults eat a light noon-day meal we find that the process of digestion continues, without a feeling of under-nourishment; this is especially true during the winter months when few of us are engaged in hard physical labor. The child's system is different; it is engaged, not only in furnishing energy for the healthy young body, but in building bones and muscles for the quick development of the child's body. A child of school age is not equipped to store energy or nourishment. If he over-eats, the result is a case of indigestion and if he does not eat sufficient amount of nourishing foods, it may soon be observed in the general weakness and stunted growth of his body.

Do not get the idea that a child's luncheon must be of the light frothy varieties. It should certainly be packed as daintily as possible, but it should also be substantial foods. If you expect your child to be strong and healthy there are certain essentials which must be put in the lunch box. One of the foremost of these is milk. Most children will enjoy a glass of rich milk at noon, but for those who do not drink milk, tasty dishes should be prepared that use milk in the making.

If great care is not taken, the children will soon tire of the more nutritious parts of the luncheon. To prevent this, provide a variety; it is also often advisable to almost exclude sweets from the school lunch. If a child dulls its appetite with sweets before touching the rest of the meal, that child would be better off without so much sweets. However, some sort of dessert must be provided, but this does not imply that half of the meal must be dessert. A pleasing and nourishing sweet for school lunch is most any one of the various forms of gelatin puddings that can be quickly and easily made at home.

It is not enough that the child's appetite should be satisfied. If you were engaged in making a cake and sent your little daughter to bring you a cup of butter, but instead of bringing butter, she would fill the cup with beans, you would be no better off than before sending her. So it is with the child's appetite. That is Nature's way of calling for more material with which to build a bigger and stronger body and it is not a call for food but

for nourishment to give strength.

It is sometimes advisable to ask your child's teacher to cooperate with you in regard to the eating habits. It is very essential that children should masticate their food properly. They should not be allowed to grasp their lunch and go rushing out to play. Does your child do these things? His teacher will be glad to inform you if questioned regarding his habits.—N. P.

SHOE VARNISH

A waterproof shoe varnish resembling patent-leather in luster is compounded of shellac, one ounce; alcohol, three ounces; a pinch of lampblack to color. Owing to the unfavorable action of alcohol on leather, this shoe varnish is not to be recommended for brand-new shoes; but to rehabilitate old shoes to a pristine shine it is unsurpassed.

The tendency of shoes being cracked by it may very largely be averted by first treating the leather to several coats of fish oil or vasoline, well rubbed in, over which a very thin coat of paraffine is applied hot, and the excess immediately wiped off; the shoes should then be burnished with cotton flannel until the surface is smooth, and apparently dry and free from oil or paraffine. The shoe varnish is then thinly applied with a small sponge fastened to a wire. Several thin coats put on several hours apart may be necessary to get full luster. After that, usually one thin application is sufficient. Patent-leather paste polish, rubbed over it and burnished with flannel, softens the glitter, and leaves a very handsome bright surface. The chief other advantage to be derived from its use comes from its resistance to water. It is, therefore, invaluable when applied to preserve the good looks of the sides of the soles and heels of shoes to be worn in bad weather; and even to waterproof their bottoms.—M. A. C.

NEW-FASHIONED NOTIONS

The new autumn suits are much longer as to skirt and jacket length. The short bloused jacket is some worn, but the long straight lines of slimmness hold high favor. The jacket may match the skirt in color or not as one's fancy moves, but a black one becomes useful and conservative when worn with other dresses and skirts. One sees a good deal of jackets in contrast, as red, beige, sulphur or white embroidered in black. They are good-looking and practical for street wear.

Household Service

I would like so much to make a dress form. Can you tell me just how and what material it will take. My size is 36, but there are three neighbors interested, and we will appreciate any help you can give us.—Mrs. C. H. W.

I am sending you a very complete article on this subject, which was published in our journal of April 9, 1921. I trust it will give you sufficient instruction and that you and your neighbors are successful with your dress forms. It is splendid that you can work together, and I feel sure, from experience, that you will find them in a practical aid in your home dressmaking.

I am a subscriber of the Michigan Farmer and would like to know of some new materials for dresses that are being worn this fall. I would like something that would be practical and that I could use for general wear.—Mrs. B. F.

Wool ratine is a very popular fall material and when made up in dark colors one has a serviceable dress. This material comes in 54-in. width and therefore cuts to a good advantage. Scotch tweed and Sweden checks, also 54-in. width materials, are much seen as Old Sol journeys toward the South. The indispensable serges and tricotines are always good looking and practical.

I have an ivory toilet set and by an accident the nail file was broken from the handle. The jeweler in this town cannot repair it. Can you tell me where I can have it done?—Mrs. M. C.

There seems to be no jewelry shop in this city that does this kind of repair work. Would advise you to send the file back to the store from which the purchase was made and they in turn would return it to the manufacturer who would repair or replace it.



HUDSON'S 41st Anniversary Sale Begins Tuesday, September 5th

No matter what you need for this fall and winter make preparations now to attend this sale, because in every instance you are assured of Hudson Quality at remarkably low prices.

Hudson's 41st Anniversary Sale, coming right at the time of the State Fair, offers double inducement to those who will come to Detroit to see this wonderful agricultural exhibit.

A great store wide event and one of the most important Hudson Sales of the entire year.

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Mention The Michigan Farmer When Writing Advertisers

Our Boys' and Girls' Department

Letters Found In Our Letter Box

Pictures on these Pages are the Winners in Our Snap-Shot Contest

Dear Uncle Frank:

I am afraid that if you were to invite all your nieces and nephews to dinner you would have quite a crowd.

I have been trying to get acquainted with you people by reading your letters, but I am afraid that won't do you any good unless I talk a little, will it? For fear that you won't know me when you see me, I will say that I am seventeen years old, five feet six inches tall, weigh 140 pounds. I have dark hair and my eyes are grey—so every-

doing this summer. Well, it originated from last summer. Mother gave me four speckled hens. Of course, they laid eggs and one of our neighbors told me she would give me a setting of white Pekin duck eggs for a setting of those hen eggs, so we traded.

I had seven ducks and two drakes, nine in all. Mother helped me raise them for I had never raised ducks before. We fed them bread and milk, and kept them shut up in a pen made of boards, for about three weeks. Then

has a truck, but we have a "big" car too. We live on a small farm, but we have a larger one farther out in the country.

I have the work of taking the traffic census on the road by our house. Traffic census is counting the cars, trucks, etc., that travel on the road. I have to work from 7 a. m. to 9 p. m., or 14 hours. But I get \$4.20 per day.

Well, I will close for this time. Clara Foote, Traverse City, Mich.

It looks as if your school work would keep you busy, but I hope not too busy to interfere with your interest in this department. That is a nice job you have, even though the hours are long.

happens the water is too cold to call, "Come on in, the water's fine!" We haven't gone bathing yet this year because the water really is too cold



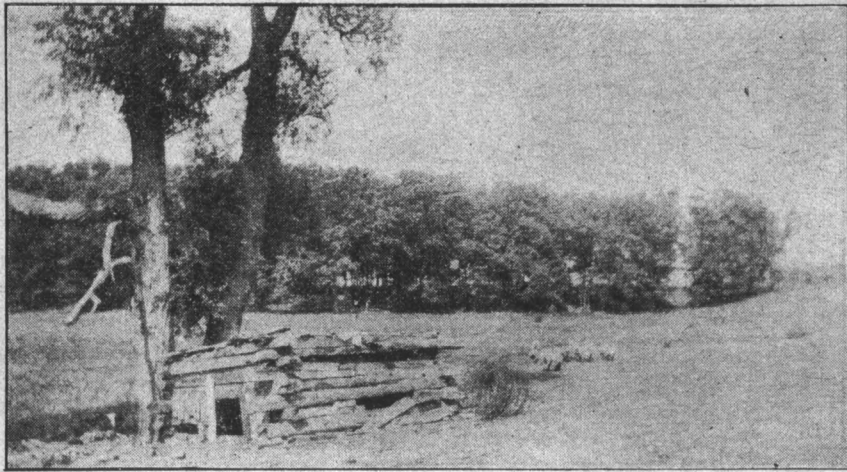
"Dodge Brothers Solve Travel Problems," From Mary Dodge, Romeo, M.

around here. Bo! ho! Isn't that too bad?

Well, I must close, because I'm afraid you won't want me to come again if I take up any more space.

I will now say goodbye. Your Pal, Esther Taylor, Ellsworth, Mich.

I changed "Farewell" to "Goodbye" in the last sentence in your letter. Farewell means too long a departure and we want you to come again, soon. I was, and I wish I was again, in the apple orchard, plum orchard and also in the water. Where I was, on my vacation, the water was fine.



Quaint Rural Scene From Howard Sherman, Edwardsburg, Mich.

body says—I don't know for myself. Well I must close my chatter. Yours truly, Ralford G. Kroft, Lewiston, Mich.

Some dandy crowd we would have if we all got together. Chatter again when you can, Ralph.

Dear Uncle Frank:

I thought I would write to you, as it is raining.

When I was in Canada we had a school fair. I took some potatoes and some chickens and wrote a story. I took first on my chickens and second

we let them run about and, Say! You should have seen those ducks grow.

Well, we killed one for Christmas, which left eight. This spring the six ducks began laying in March and laid 335 eggs up to about the twenty-first of June.

I set all of the eggs under hens. The first eggs that were set hatched pretty good, but I guess it was too hot for the last ones.

When they were hatched off I had 201 ducks. I have lost several, that is, they died, and a great number of them have run off and I couldn't find them. I have 165 now.

Mother has forty Toulouse geese. It keeps father, mother and myself all on the hump all the time.—Mildred Walters, Eckford, Mich.

Your duck experience is interesting. It would be interesting to know how you come out financially with it this fall.

Hello, Uncle Frank!

No doubt this is a bold beginning, but really, Uncle, I want to be acquainted right away, as I know it will surely be worth while.

According to the little remarks made by you after each person's letter, I think you must be a great uncle. That's why I think I'll like you all the more.

I'm a little farmer lass of sixteen, although I hate to call myself one. You may think me mean to hate the farm, but I can't say much for it.

The only things that interest me on the farm are my pets, which are a rabbit, dog and an owl.

I'm a junior at school. We ride in a buss, which I detest most severely. The knocks and bounces make it so.

Well, uncle, this letter is getting somewhat stretched, so I'll stop here. Your new niece, Bertha Hayes.

I am so glad you want to get acquainted, but your opinion of the farm disappoints me. Try joining some Boys' & Girls' Clubs and I'll bet you'll have fun enough to change your opinion.

Dear Uncle Frank:

I am 14 years old and will be in the tenth grade this fall. I am going to take the following subjects: Latin II (Caesar), English II, Geometry and Ancient History. Also chorus, which takes thirty minutes of the day. I also take music lessons and I expect to be in a musical this fall.

My father is a leather dealer, so he

Dear Uncle Frank:

At last I have come to the conclusion that I would write to you and your pals. Well, say, I believe some of them are also my pals. I just finished a letter to a member of the club. I would like to write some more too. Maybe I will in a few days.

I'll bet you wish you was in the apple orchard eatin' some fine, fresh apples, now. Don't you? Um! Apples are sure great "stuff." Come on, before you're too late! We had lots of cherries this year and believe me we'll have some great nice plums this year, too. There's where I shine, out under the plum tree, while the sun shines. I don't care much about these moon-shines. Ha! Ha! That is why I said sun shine.

How do you and the "kids" like these fine summer sunshiny days? They are all right, I guess, but as it

From Our Junior Poets

TWO PIGS

Johnny Jones, he bought a pig;
It wasn't so very big.
He fed it much, and oh! it grew,
Until it weighed twelve hundred two.

Now Johnny's Dad, he bought a pig;
'Twas not so awful, awful big.
He fed it lots, but it never grew,
'Twas like a stunted kangaroo.

And Johnny said, "Now, Dad, it's you,
You ought to join the pig club, too;
Your pigs don't grow because they know,
That you're not in our Pig Club Row.

—By Paul B. Herman,
Coldwater, Mich.

A LITTLE GIRL

Her eyes are like forget-me-nots,
So loving, kind and true;
Her lips are like a pink sea-shell,
Just as the sun shines through;
Her hair is like the waving grain,
In summer's golden light;
And, best of all, her little soul
Is, like a lily, white.

—By Arthur Schrader,
Ypsilanti, Mich.

AFTER THE SHOWER

After the shower was over,
In the eastern sky was seen,
The most magnificent rainbow

Of pink, yellow, purple and green.

The evening sun was setting,
It made such a pretty sight,
To see the bow and the setting sun,
That lonesome cheerless night.

The sky seemed to be shrouded
In a pink and golden robe,
While the clouds looked like sail boats
That were lined with glittering gold.

Though that gorgeous scene soon faded,
Into a lonesome night,

I'll never forget that evening,
When I saw that, that pretty sight.
—By Editha Engwall,
East Lake, Mich.

THE EARLY RISER

This morning a rumbly, bumbley bee
Flew to my window and buzzed at me.
"Zame on you! Zame on you! Zleepy-head;

Open your eyes and hop out of bed;
Fill up your lungs with the morning air,

Polish your teeth and comb out your hair."

Then bumping and bumbling he flew away,

Over the borders of flowers gay.
I hopped and I hurried for, no, siree!
I wouldn't be beat by a bumbley bee.

—By Robert A. Cook,
Age 13 years. Ithaca, Mich.



"Harold and His O. I. C.," From His Sister, Isabel Fisk, Clinton, Mich.

on my story. I did not get anything on my potatoes. Our school took thirty-two prizes. There were only nine pupils. We made a collection of weeds and took first prize on them.

I guess I will close.—Your Nephew, Lyle Murry, Caro, Mich.

I congratulate you on your prizes. Your school certainly made a good showing. I hope you will write me again as part of your rainy day occupation.

Dear Uncle Frank:

I have been reading as many of the letters written you by the other boys and girls, that I really feel acquainted with you and all of them.

I must tell you what I have been



"Dinner Time," Sent In By Ruth Defoe, Yale, Mich.

THE CONTEST RESULTS

By Uncle Frank

EITHER a lot of my pals were on their vacations or they did not know what they would do with five dollars if they had it, for the returns from this contest were as light as any we have held so far.

But the investment suggestions I received were good. They were the sensible kind which indicates that boys and girls know how to use money in the right way. However, judging from the results, the girls are the ones most interested in handling money.

Because of the lack of space I cannot print the winning papers this week, but next week I will give all

ANOTHER SPELLING CONTEST

The last spelling contest was a real success, so we will try the stunt again. This time I ask you to make as many words as you can out of the letters contained in the word "Agriculture." The use of the letters in any word more often than they are found in "Agriculture" will disqualify such words. Proper names will also be disqualified. The five boys or girls giving the largest number of words will receive one dollar each. This contest will close Sept. 7th. Please address all your letters to Uncle Frank, Michigan Farmer, Detroit, Mich.

five. The winners whose papers will appear next week are:

Faith Harriet Goodell, St. Joseph, Mich., R. R. 1.

Beatrice Pach, Rose City, Mich.

Elmer J. Smith, Battle Creek, Mich., R. R. 9.

Marie L. Blatt, Brown City, Mich.

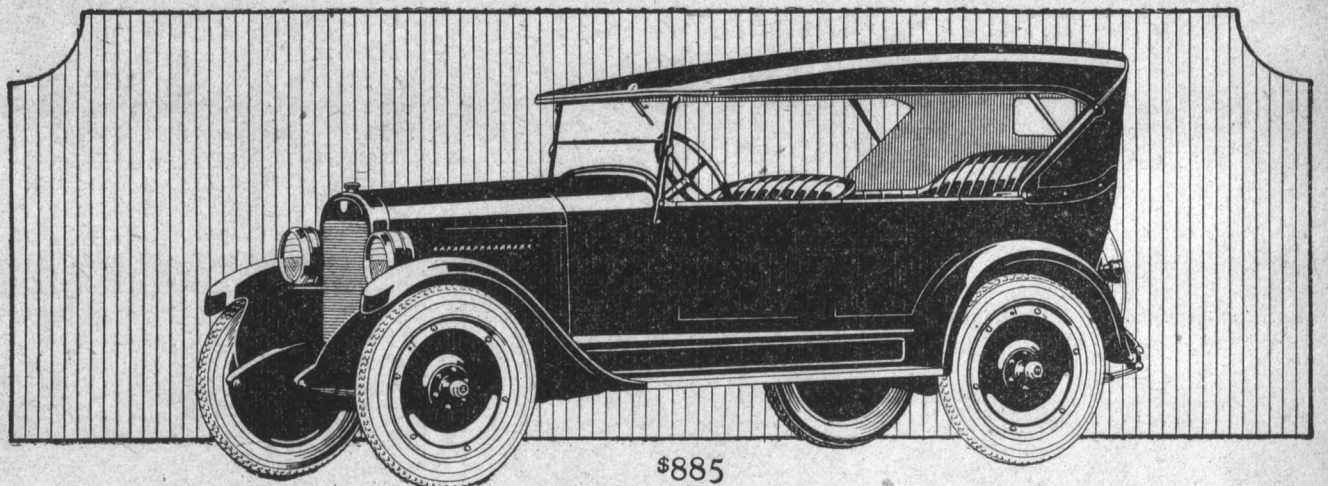
Leona Finkbeiner, Ann Arbor, Mich.

Quite a few of the investment papers we received had some very good suggestions, but they violated the rules of the contest by going over the hundred word limit. Perhaps in the future we will print some of those not fortunate enough to win a prize on this account, but have interesting matter in them.

With the contest papers I got a nice lot of letters. I appreciate all these letters, as the reading of them constitutes the most enjoyable part of my work. One thing pleases me greatly and that is the unselfishness expressed in so many of the letters. Most every letter expresses the thought that its writer does not want to make the letter so long as to crowd others out of the space.

I have thought often of the feeling of disappointment that must come to those who write letters with the anticipation of having them appear in "Our Letter Box" and then fail to find them there. However, it would be mechanically impossible for me to print them all, so the best I can do is to pick a few here and there for publication. But all are read and enjoyed, so I hope you will keep them coming, especially as they seem to be getting more interesting all the time.

The vacation period with all its varied activities is about over and soon you will be back at your regular school for another year. Some go back with regret that the vacation is over I presume, while others undoubtedly look forward with anticipation to the coming year's work. Regardless of how you feel about it, I hope all of you are going back to do the very best you can. You are cheating no one but yourself if you don't.



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Light in weight but sturdy in build—
economical of gasoline, tires, and oil—rugged
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Cord tires, non-skid front and rear; disc steel wheels, demountable at rim and at hub; drum type lamps; Alemite lubrication; motor driven electric horn; unusually long springs; deep, wide, roomy seats; real leather upholstery in open cars, broadcloth in closed cars; open car side-curtains open with doors; clutch and brake action, steering and gear shifting, remarkably easy; new type water-tight windshield.

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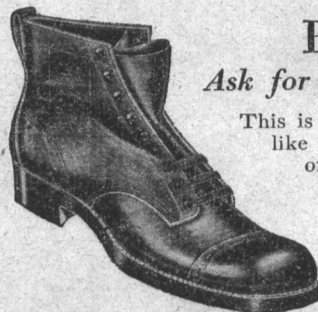
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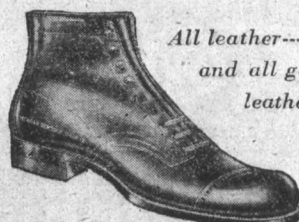
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This is Michigan's famous service shoe. It wears like iron. Only the "bend," the choicest part of the hide, is used in the Hard Pan sole. A special process of re-tanning makes the shoe water-resistant. It is roomy and comfortable, and will stand up under gruelling wear. H. B. Hard Pan service shoes are sold by reliable shoe stores at \$4 and up. Lighter service shoes at \$3 and up.



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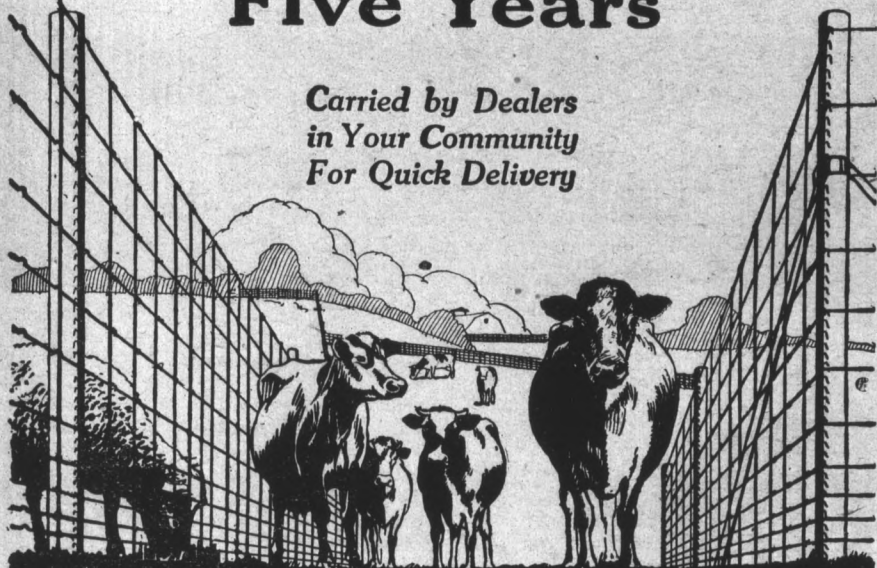
R. F. D..... State.....

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LAYING PULLETS

Do You Want Some Laying Pullets in 4 Weeks from Now.

We have a few hundred White Leghorns that are past 4 months old that we will sell at the 3 months price. This bargain is offered so that you may order the pullets at once.

These Pullets are now beginning to make comb and should be put into laying quarters right now. They should begin to lay in 4 weeks or less.

Also we are offering the same bargain in a limited number of other Pullets:

**Barred and White Rocks; Rhode Island Reds;
White Wyandottes; White and Buff Orpingtons**

Send for our publication, Homestead Farms and Price List. Here are some real bargains in all these Pullets; also Cockerels, Ducks, Geese and Turkeys.

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Baby Chicks \$12.00 per 100 and up

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

PULLETS

Barron Strain S. C. W. Leghorn.
8 weeks old \$1.00 each \$90.00 per 100.
12 weeks old \$1.25 each \$115 per 100.
Yearling hens \$1.00 each \$95.00 per 100.
Good healthy selected birds, no culls or weaklings.
PINE BAY POULTRY FARM, Holland, Mich.

Whittaker's R. I. Reds

200 Single Comb Red pullets at \$2.50 to \$5 each. Also Cocks and Cockerels of both combs. From stock blood tested for bacillary white diarrhoea. Write for catalog. Interlakes Farm, Box 39, Lawrence, Mich.

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59 hens laid 1170 eggs in Jan. Eggs \$2.00 per 15; \$10 per 100. **EVERGREEN POULTRY FARM, Blanding & Sons, Greenville, Mich.**

WHITE LEGHORNS

Lay 265 to 301 eggs per year. Winners at 50 shows. Chicks, eggs, pullets, hens and males shipped C.O.D. at low prices. Write today for catalog and complete information to the World's Largest Leghorn Farms. **GEO. B. FERRIS, 634 UNION, GRAND RAPIDS, MICH.**

ANCONA PULLETS

I have 300.3 months old, utility selected Ancona pullets which I will sell at \$1.30 each. Order at once and avoid disappointment. **Thomas Beyer, R.4, Zeeland, Mich.**

Cockerels, year old hens. S.C.W. Leghorn Barron's strain. Order now while they last. Start right and get the best from trap nested stock with egg records from 200 up to 279. **BYRON CENTER POULTRY FARM, Byron Center, Mich.**

Barred Rock and W. Wyandotte Breeding Stock at bargain prices now. **HOWARD GRANT, Marshall, Mich.**

Barred Rock Cockerels

Parks' 200-egg strain. From stock from Parks' best pedigree pens. Vigorous, early hatched birds \$3 each. **R. G. KIRBY, Route 1, East Lansing, Mich.**

Sold PULLETS Out

This space belongs to Simon Harkema and Sons. Breeders of American-English Strain of S. C. W. Leghorns.

Chicks, Pullets and Breeding Cockerels in season. Sold out for season of 1922.

**Simon Harkema and Sons,
Holland, Mich.**

Pullets Cockerels Pullets

Barred Rocks From Proven Layers

Laying contest winners. Records 213 to 257. Write for catalogue.

**G. CABALL,
R. 4, Hudsonville, Mich.**

JUST-RITE LOOK!

A Hatch Every Week All Year

NABOB HATCHERY, Dept. 15, Gambier, O.

Barred Rocks egg contest winners, eggs from strain with records to 230 a year. \$2.00 per setting prepaid by P. P. Circular free. **FRED ASTLING, Constantine, Mich.**



MASH HELPS EGG YIELD

THE farmers in Ohio are finding that feeding a mash as a supplement to the regular grain ration greatly increases the egg yield. On the farm of M. I. Hanson, of Monroe County, 110 Brown Leghorns produced seventy eggs a week on the old-time grain ration. When given in addition a mash of two parts corn meal and one part each of ground oats, ground wheat and meat scraps or tankage, the same hens laid 362 eggs in the third week, or an increase of 425%. This, of course, is an unusual increase, but the average increase on twelve farms was 71%.

It is advisable to gradually accustom the hens to any change of feed and, in some cases, satisfactory results are not obtained because the change is made too quickly.

A good way to make the hens eat the mash is to give them practically no scratch feed in the morning, but to have the mash hoppers accessible to them.

The results of this work also show that summer feeding pays well.

POULTRY CULLING FAKES

PROFESSIONAL poultry cullers, such as have been reported in this state, are active in Wisconsin. These fellows go from farm to farm culling the farm flock in an apparently business-like way. They guarantee to take all the culls at a good price. The profitable part of the scheme from their standpoint is that they cull out the good hens and leave the farmers the poor ones. Farmers should beware of these professional cullers and if there is any doubt as to the standing of these fellows the local county agent should be consulted.

RECORD FOR EARLY MATURITY

THE M. A. C. Poultry Department has a barred rock pullet which laid her first egg when three months and fifteen days old, which breaks all records for early egg production. She is the daughter of a 302-egg hen, that was mated to a male bird noted for early development. Her sire's full sisters are now leading in the National Canadian Contest and he is demonstrating his prepotency of early maturity by producing pullets that come into egg production before four months of age. This clearly indicates that proper breeding and selection will bring results.

MEAT SCRAP BETTER FOR HENS THAN TANKAGE

IN tests, which involved the flocks of twenty-three farms, the Ohio Experiment Station has found that meat scraps give better results as a protein food than either digester tankage or milk. High grade tankage containing fifty per cent of animal protein is all right, but much of the tankage is of low grade, often containing as low as fifteen per cent protein and having as filler animal hair, hoof and horn,

which is hard on the hen's digestion.

Meat scraps are of a more uniform quality and usually bring more eggs. One farmer got thirty eggs a day less from his flock of two hundred when he substituted low grade tankage for meat scrap.

The milk contains a good amount of animal protein that is fine for hens, but it should not be counted as a substitute for meat scrap in a dry mash. It contains such a large percentage of water that the hens have to gorge themselves in order to get enough protein to keep at a high laying capacity. Milk, however, is a fine adjunct to use in poultry feeding.

HENS EYES SWELL

I have some hens whose heads swell on one side so they can't see out of the eye on that side. Some of them have a froth or foamy substance by the eye. On some of them a little bunch sticks out on the side where the swelling is. Some of the hens get over it but most of them die after some time.—F. P.

The hens have a form of roup which has resulted from a cold. The nostril becomes clogged due to the cold and soon accumulations of cheese-like pus form and bulge out near the eye. Sometimes the nostril can be cleaned with tissue paper and rubbed full of camphorated vaseline and the swelling will soon go down. In other cases it is necessary to make a cut in the lump and remove the matter. Then rub camphorated vaseline in the wound or wash it with a disinfectant. It is usually necessary to remove the matter several times before the wound will heal. Sometimes a cure occurs quickly. In other cases the hen will gradually grow worse and die. The natural vigor of the hen is the determining factor. Such cases are best prevented by keeping the birds from catching cold.

RABBITS LOSE HAIR

We have a nest of ten Belgian hares, born July 9th. When they were fourteen days old the mother died. Since then we have been feeding them on warm cow's milk. They now eat dry rolled oats and all kinds of green stuff. They do not drink quite so much milk as they did four days ago. July 29th we noticed that the smallest bunny was losing its fur. It eats just as readily as do the others. Its eyes are bright and it is very active. The fur is now all off its body except for the long black hair. There is some fur on the haunches yet and the head and feet are well covered. July 31st we noticed that the bunny next larger is losing its fur in the same way. Can you give us any information or advice on this condition?—C. W.

When rabbits have mange or skin diseases try using an ointment made of equal parts sulphur and lard. Rub this into the skin thoroughly. The next day wash the skin with castile soap and warm water. On the following day the ointment treatment should be repeated and on the next day more scrubbing with soap and water. This will usually make a cure, but is a treatment not to be used in cold weather. If the rabbit is healthy a new crop of hair may appear in a short time.



Rural Health

By Dr. C. H. Lerrigo

WEARING SPECTACLES

By Doctor C. H. Lerrigo

IF you are forty or past, and you suddenly discover that your vision is not what it used to be, don't be alarmed. It is nothing more than a natural deficiency. It means that the crystalline lens of the eye is not so flexible as heretofore. It is beginning to harden. It never will work again quite as well as in the old days and you must give it the artificial aid of a glass with a slightly convex lens.

The fitting of spectacles assumed in middle life to adjust such natural changes can be done without any use of "drops" in the eyes to dilate the pupils. The real need for "drops" is when there is astigmatism or some other error of refraction and the doctor needs to examine the whole eye very carefully. This is even more likely to be required in children who need glasses than in adults.

The fact of the matter is that it is more important to have the eyes of a child correctly fitted than those of the adult. When children, especially those in school, require spectacles, it is usually because of near-sightedness (myopia). The ciliary muscle, which controls the lens of the eye is exceedingly active in children and a proper examination is quite impossible until it is put at rest. That is why medicine is dropped into the eye by the doctor before the examination is made. The medicine quiets the muscle and the doctor is able to see properly and judge of the real condition. Perhaps it is worthy saying that homatropin, the medicine now chiefly used by doctors for eye examination, is quite transitory in its effects, the eye becoming active again in 36 hours or less.

Never make the mistake of using spectacles bought at a notion store or of a travelling peddler. It is great folly to trust the care of your precious eyes to some man whose education in the specialty is limited to a few weeks training in "fitting glasses." You need one thoroughly trained, not alone in the eye but in all of its relations to the whole human complex.

When you get your glasses let the doctor tell you just how to wear them, and have him personally examine the frames to see that they are properly adjusted. To give full efficiency, not only must the centers of the lenses correspond to the ocular centers, but the distance of the lenses from the eyes must be proper. There should be just sufficient space to prevent the eyelashes from touching the glass.

BAD BREATH

I have had a bad breath for over a year. Have taken medicine for stomach but get no relief.—Mrs. E. H.

Bad breath is often due to other than stomach trouble. Decayed teeth and diseased tonsils are often responsible. Chronic nasal catarrh is a frequent cause. A bronchial cough with accumulation of mucous often causes a bad odor from the mouth.

RUSH OF BLOOD

I am a woman, 24 years of age, and have two boys, two and four years of age; my husband died a year ago. Could you tell me what causes my blood to rush up over my neck and face in spots when I get excited or nervous; or some times it does this when I am neither. I also have varicose veins very bad, but they don't bother me. Would you advise me to marry again in order to have a home

with my two children? I am about five feet tall and weigh 135.—Mrs. A. W.

Such manifestations do not necessarily indicate any disease, but are symptoms of easily disturbed nervous system. They are akin to blushing. There is no treatment. The varicose veins may be improved by cold bathing and gentle massage. I hesitate to make any prescriptions for matrimony excepting to say that I see no reason why not.

ACID STOMACH

I have been troubled for some time with an acid stomach. I have been to local doctors but received but very little help. At times it is almost unbearable. Is there help for my trouble? If so please give it through your Rural Health Column. I think perhaps there are others as bad of this trouble as myself.—Miss J. M. J.

Acid stomach is a very general term and may mean much or little. In general I suggest the very careful mastication of all food, and the inclusion in the diet of leafy vegetables, potatoes cooked in their skins, and the drinking of fresh milk.

BROKEN VEINS

Please tell me the best and quickest relief from big veins. They give me a lot of pain and distress but I must keep on with my work.—G. F. J.

You will get most immediate relief from wearing elastic supporting bandages or stockings. It is well to find the cause. If you are too heavy reduce your weight. If your heart action is poor build it up. If you have flatfoot get the fault corrected. There are many different reasons for broken veins. Find the reason and have it corrected.

SUPPOSED CANCER

I have a sore on my under lip which a surgeon called a tumor. He told me that I would have to have it cut out and I would also have to have all of my lower teeth and a part of my upper ones pulled and that he would have to take some kernels out of my throat, on each side. It was a very serious operation and did not give much hopes of passing through it. This sore has been on my lip about 2 months.—B. L. B.

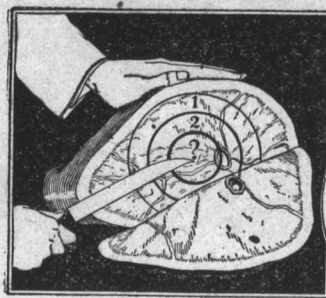
Your doctor could give such advice only on the supposition that the tumor is a cancer. Even at that he is proposing very radical treatment. It may be necessary. Certainly you should have some treatment promptly. But first get some other experienced surgeon in consultation. Then take prompt action on their joint advice. When a cancer has involved glands it is doubly dangerous.

HOW DO YOU PRONOUNCE IT?

Ninety-nine chances out of one hundred you say ath-a-lete, even if you are a high school student, or perhaps a regular collegian. Where do you get that extra syllable? The word is athlete, exactly two syllables, with the accent on the first syllable. Don't tell folks what an ath-a-let-ic chap you are. They'll think you'd better exercise your brains more and your muscles less. Say you are ath-let-ic, with the accent on "let."

"More milk for all, both poor and wealthy, for it's the stuff that makes men healthy," would be a motto that would make Ill Health our pathway soon forsake.

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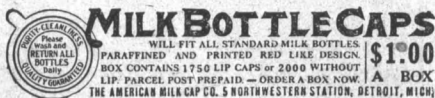
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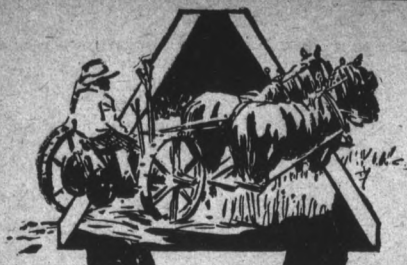
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LIVE STOCK AND DAIRYING

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ARE consumers willing to pay 15 cents a quart for good rich milk, knowing that this milk contains a high percentage of butterfat from cows tuberculin tested?

Dairymen have frequently asked this question and occasionally they have found someone who has discovered such a market. They are about as



Mr. and Mrs. Gillette, Quality Dairy Farmers

scarce as hen's teeth, but they are real interesting persons to sit down and talk with. They are just bubbling over with enthusiasm. To them this old world and its low prices is not quite as blue as sometimes paint-

ed by those fellows down in the mouth.

One of these dairy optimists in Michigan is M. L. Gillette, owner and proprietor of Shady Nook Dairy Farm, two miles northwest of Grand Rapids. He is supplying a select trade in the Furniture City with pure Guernsey milk at 15 cents a quart and can't begin to supply the trade.

Mr. Gillette started his route on Armistice Day, 1921. He was milking four Guernsey cows then. Four months later, as a result of Mrs. Gillette's missionary work day times among the consumers of Grand Rapids, Mr. Gillette found it necessary to increase his herd to 13 cows. And still he is unable to supply the demand.

Mr. Gillette believes there are hundreds of consumers in every city who are willing to pay long prices to get good milk, and who really know they are getting the kind of product they are paying for.

Mr. and Mrs. Gillette are just young people, the kind of folks you find nowadays sticking on the old farm, practicing modern methods and getting away with it big. The big city has no lure for them. They are contented "down on the farm."—Run.

Contagious Abortion

By W. C. Fair

EVERY owner of cows, mares, ewes and sows, should be deeply interested in the prevention of infectious or contagious abortion.

It is a well known fact that infectious abortion causes greater loss to cattle raisers and dairy farmers than any other single disease, tuberculosis not excepted.

Infectious abortion is a specific inflammation of the mucus membrane of the uterus which in pregnant animals leads to an affection of the fetal membranes and often to the premature birth of the fetus. The fetus may be either living or dead, depending upon the degree to which the germs have interfered with nutrition.

Animals which have aborted once or twice may cease to abort, but they remain diseased and are likely to infect others. Accidental causes may and sometimes do bring on miscarriage, however, every abortion in cows should be considered infectious. Contagious abortion of cattle is a specific infectious disease due to the Bact. abortus of Bang, but in mares it is caused by the Bacillus abortus equi. The germs are found in the uterus fetal membranes, and fetuses of infected mares. This disease has not yet become very common in ewes or sows; however, it is well to keep in mind that they are not exempt from it.

Doubtless the infection is taken up with the food or water, or through the genital organs, which may become infected by stable litter, manure or contact with infected milking or stable utensils, or using syring, douching hose or instruments which are not always clean.

Treatment—No reliable cure is known for contagious or infectious abortion, but the use of vaccines applied by your veterinarian to herds which are badly affected will prove beneficial, and the treatment is perhaps worth what it costs. However, the use of vaccines for abortion is still in the experimental stage. Pre-

ventative measures have given the writer best results. Equip your farm with a separate stall or stable for your cows at calving time.

This maternity barn should be so constructed that it can be fumigated with formaldehyde, easily disinfected and not difficult to keep clean. Keep the cow in this barn and treat her until all vaginal discharge ceases. The aborted fetus and accompanying membranes should be burned as the germs are very numerous in these tissues. The manure and litter should be placed out of reach of your cows.

The disease has been spread by the introduction of an infected animal into a healthy herd. Keep the new cow or

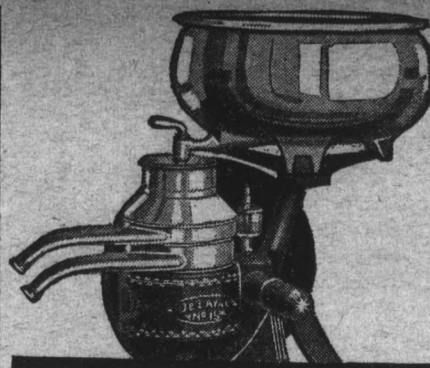


E. C. Fowler's Guernsey, Elm Row Namounar Dalphin

heifer isolated from balance of herd until after she calves.

Don't, knowingly, have your cow or heifer served by a neighbor's bull, unless you are reasonably certain that he has not been serving diseased cows. It is true that the bull is only a mechanical carrier of the infection, but to make him safe, he should be treated both before and after service, especially if he is serving infected cows.

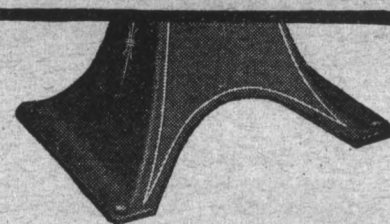
Treatment of the genital tract of aborted animals is essential, especially in cases of retained placentas; however, this is work for the veterinarian or trained dairyman. Infection with the abortion organism often leads to retained placenta and sterility. Suckling calves from infected mothers spread abortion infection, by tramping



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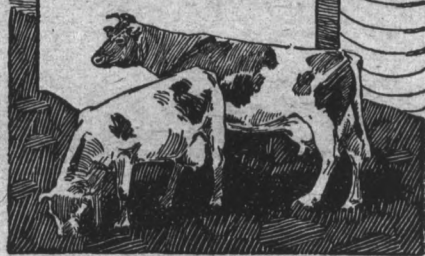
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through the feed, or manure from infected cows. It is a great mistake to feed the milk from infected cows, to sows, unless it has been sterilized.

Cows which have aborted should not be sold but kept in the herd until they become "ceased aborters" unless they fail to conceive when bred. About one in five or six have latent or active infection, and infection probably through teat in adults and is situated in udder of non-pregnant, and in womb and vaginal discharge of pregnant cows, but B. abortus disappears from uterus soon after parturition. Or germs enter cow through food and attack fetus in utero through blood. Young animals may be infected by milk, or in utero, but infection does not last long. There are many healthy carriers never showing signs of disease.

Suspicious symptoms in a herd are abortions, retained after birth, sterility, nymphomania and mastitis in cows; while B. abortus causes in calves through milk white scours, in-

fectious arthritis and pneumonia.

It is considered good practice to flush vagina of aborting cow until os closes and discharge ceases, the same preparation is suitable for flushing sheath of bull, before and after service; use one part Lysol, Creolin, or Liquor Cresolis Compositus, in 200 parts tepid water. Douching vagina with this preparation every 48 hours, for 30 days before cow calves may prevent white scours and pneumonia, use this same preparation twice as strong to bathe the hind parts of aborting cows. Wash and dry the calf. Sterilize stump of cord with tincture of iodine and dust with one part salicylic acid and three parts boris acid, and don't forget that absolute cleanliness of hind quarters of infected cow will very often prevent mastitis and white scours of calf. In conclusion let me say, the fundamental principles underlying the control of contagious or infectious abortion are the same as for the eradication of other infectious diseases.

Dairying by Guess and by Gosh

(Continued from page 221).

any dairy supply house at a cost of from \$3 to \$5, and when properly cared for, will last 25 years. It should be kept dry, oiled occasionally, and not be subjected to heavy loads. It should be used only for milk weighing purposes. Good milk pails cost from \$1.25 to \$1.50 each from hardware dealers or tinsmiths. If there is any difference in weight, this can be adjusted by adding solder on the bottom of the pail. Although the daily weighings gives the farmer the widest possible knowledge of what each cow is doing, by weighing three times a month is accurate enough for all practical purposes, say on the 1st, 10th, and 20th. If a cow gave an average of 30 lbs. daily for a month, she would be credited with 30x31=930 lbs. for that month.

The milk scale may be hung from the ceiling of the stable or milk room by means of a wire or rod; or, it may be suspended on a wall bracket so that the pail will be clear of the wall when weighing. The milk sheet may be tacked on the wall, or be kept in a cabinet which can be made or purchased. It should be kept clean by having a glass or paper for the milk-er's hand to rest upon when recording weights. If everything be convenient it will not take a minute a day to weigh and record each cow's milk in the herd.

At the end of the month, the totals should be obtained for each cow, and these transferred to a Herd Record Book. On the evening of Dec. 31st next, the monthly totals for each cow should be added, and the average for the year made. All cows which have not produced at least 6,000 lbs. milk, except their milk tests high in fat, may be regarded as unprofitable. Some owners are adopting standards of 8,000, 10,000 and 12,000 lbs. milk per cow per year. When we consider that the average pounds of milk per cow is probably between 3,500 and 4,000 lbs. we can see that there is much room for improvement in the dairy herds. This improvement can be brought about only through improved breeding, and by weighing the milk from each cow during the whole lactation period.

The foregoing is the first step in systematic improvement of dairy cattle. The next is that of testing for milk fat. Fortunately, in the Babcock test we have a comparatively simple method of determining the fat content of milk. The owner may test the milk himself by using a four-bottle machine, costing about \$10. He ought, however, to take a few lessons, or a short course, in testing.

It is very important that the sample be properly taken. After all the milk is in the pail, stir and take out about a tablespoonful, placing it in a bottle having the name or number of the cow marked on the bottle. Do this night and morning, preferably for two or three days. In hot weather, a preservative will be needed if samples be taken for more than one day. Preservative tablets may be purchased of dairy supply houses. If these samples are taken once a month during the lactation period, results will be satisfactory. Some claim that if samples for fat testing be taken during the second and fifth months of lactation, that this gives results accurate enough for all practical purposes. The main point is to take samples for testing, often enough to know how each cow's milk tests for fat. This is especially true where milk is sold on the fat basis.

To apply the results: Suppose a cow has given 930 lbs. of milk during the month, and her milk tests 3.6 per cent fat. She will be credited with 930x3.6 plus 100 equals 33.48 pounds fat, or nearly 40 lbs. of butter for that month. (When calculating butter from fat, add one-sixth to the pounds of fat.)

Although this may look like considerable extra work, when it is once started and the owner becomes interested in knowing just what each cow is doing, the work is easy and the time is not begrudged. With every farmer using systematic methods in his stable, the work is not only more interesting, but much more profitable. —E. W. G.

COW-TESTING AT NATIONAL SHOW.

THE National Dairy Show is dated for the Minnesota Fair Grounds, St. Paul-Minneapolis, Minnesota, October 7-14, 1922. Special recognition is being given to the grade cow with a cow-testing association record.

Michigan is the pioneer state in this phase of dairy development. Newaygo county had the first cow-testing association organized in the United States. It will be altogether fitting and extremely appropriate that Michigan grade cows with cow-testing association records be gathered together from several counties and sent to the National dairy show.

Hogs roughly handled show up with bruised flesh at butchering time, and have less value. Chicago packers recently estimated on carcasses so damaged, and found a run of 15 per cent bruised.

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We have for sale a number of good bull calves
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His get won first in Calf Herd, also first in get of
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We have bulls at dairymen's prices, and we also
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Bulls of show type that are out of
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Pure bred, registered, federally tested. Dam, a 18 lb.
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istered Holstein bull calves. Quality
of the best, and at prices within reach of all. Write
GEO. D. OLARKE, Vassar, Mich.

856 lbs. butter 19600 lb. milk largest 4 yr.
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We guarantee every animal to be a breeder. Federal
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Polled Shorthorn Cows & Heifers
in calf and calf by side. Also a few young bulls.
Herd headed by Victor Sultan and Royal Non-
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We can please you in richly bred cattle with
quality at farmers' prices.
GEO. E. BURDICK, Mgr.
Branch County Farm, Coldwater, Mich.

Raising Black Silver Foxes

(Continued from page 219)

became known a fox farming boom started. In the course of a few years stories concerning the wealth to be obtained from this business leaked out. Three sisters were clearing \$25,000 a year out of their venture. A small party of clerks organized a company and made \$40,000 in four years. J. C. Tuplin sold a pup for \$9,000. Charles Dalton, in 1910, sent a consignment of 25 choice skins to London, which brought \$34,175, an average of \$1,420 per skin.

In 1912 the number of ranches upon the island had increased to 277, with 899 breeding silver foxes. One hundred and forty-three of these ranches were maintained by companies while the balance, 134, were conducted by individuals. The capitalization of the companies engaged in the industry

vantage of purchasing horses at \$3.00 to \$3.50 a carcass, and in some places obtaining them free. Calves, a few days old, are bought at as low as 70 cents and are easily purchased at \$1.50. Beef and beef scraps can be bought at 4 cents a pound and packing house offal, not used for human consumption, can be purchased at a very low figure. The cost of cereals, such as rice, wheat, etc., also probably can be procured in this country at less than on the island. The cost of feed for a pair of foxes, including the raising of the pups, amounts to from \$15 to \$50 a pair, according to the facilities and the kind of feed given.

Methods of Feeding

"In most cases all the meat is fed raw. Some feeders cook all their meat before feeding, feeding raw meat during the breeding season only. The cereals are used to make biscuits or a porridge. The porridge is made by cooking meat and securing a stock in which the various cereals are then cooked. Vegetables, dried blood, ground bone, ground alfalfa, and lime water are sometimes added to the porridge. Bread and milk or bread and shredded wheat waste is fed quite extensively. Raw bones are ground and fed with raw as well as cooked meat. Biscuits are fed dry and soaked in milk. All the feeds mentioned are fed in various ways, such as raw, soaked or cooked, but all feed must be clean and wholesome.

"The majority of foxes are mated during the winter following their birth when they are not yet a year old. On this trip I saw vixens that had litters of from one to eleven pups, the average being about four. Some ranchers wean the young foxes and others permit them to wean themselves. Quite a few ranchers believe more young can be raised if they are taken away as soon as they begin to eat food.

"After the pups are large enough to take care of themselves and are taken away from the old ones, the old animals are given an inspection. Non-breeders, non-desirable and cripples are picked out and fed to be pelted. This same procedure is followed in



A Black Aristocrat

ranged from \$725,000 on which a dividend of 40 per cent for the year was paid, to a small farm capitalized at only \$10,000 on which dividend of 500 per cent was distributed.

The war (1914) and general conditions resulting from the war killed the boom and started more serious thinking among the breeders engaged in the fox industry. A conference of fox men, in the spring of 1915, resulted in the incorporation of the Prince Edward Island Fox Breeders' Association. This society started the registration of silver foxes, according to the rules and regulations laid down by the association.

The fox business on the island today is on a better basis than it has ever been since the industry was started. The war, which was responsible for the rapid rise and fall of the fur market and present day conditions, caused the ranchers to take a different view of the business. Breeders again fully realize, as they did when the business started, that pelt value is the only safe and sane basis on which to establish the business.

Wide Range of Ranch Equipment

"With the success which the ranches have had in this country during the last few years and the rather rapid approach of the price of pelts to that of breeding stock, I predict a good future for the business," said Mr. Ashbrook. "In making the rounds of ranches I have found foxes being kept under all sorts of conditions and with widely varying degrees of success. I have seen pens, including dens, built for \$70 while, other pens under ground made with concrete cost close to \$200 per pen. On the average, I believe, substantial pens and dens cost from \$100 to \$150.

"These pens take almost every conceivable shape. A rather common type is a pen 25 feet square with wide walls 8 to 10 feet high with a 2 foot overhang. That is, the wide walls extend inward at the top a distance of about 2 feet, so the foxes cannot climb over the top of the wall. In a like manner, the walls are extended in 2 feet below the surface of the ground to keep the foxes from digging out.

"I found that it cost the Canadians more to feed the foxes than it does the ranchers in the United States. Fur farming is a commendable and hopeful adjunct to the fur industry ward Island, for instance, is shipped to the island. Here we have the ad-



A "Blue-Blooded" Female

the case of any undesirable pups. From the crop of pups the breeder usually retains the best for himself and mates them according to his own ideas."

Uncle Sam's Interest In Fur Farming
Since the United States is the largest producer of raw furs, totalling about \$35,000,000 annually, and is also the greatest consumer of furs, Congress has seen the wisdom of aiding in the establishment of a domestic fur producing industry. Studies of the adaptability of fur bearers to produce fur of quality in captivity has been continued at the experimental fur farm at Keeseville, New York. The animals confined there are red and cross foxes, skunks, raccoons, martens and fishers. At present the silver fox leads in the number of ranches, but there are also many persons breeding skunks, raccoons, minks, muskrats and martens. Fur farming is a commendable and occupies an important place in the general scheme of conservation.

Gassing the Peach Borer

(Continued from page 221)

weeks, so if the application is made very late in the fall or if the weather is cold and wet up to freezing time, following the application, the mound containing the material should be pulled away and fresh earth banked up around the tree.

Age of Trees

Thus far the New Jersey Experiment Station is only recommending the use of Paradichlorobenzene on trees six years or older. When tender plant tissues are exposed to the gas for a protracted period of time, severe injury has been noted. Blakeslee reported that in his experiments many one and two-year-old trees were killed outright and many more injured by the gas, while on three and four-year-old trees a certain amount of injury was noted, while only traces of injury were seen on five-year-old trees. Six-year-old trees escaped injury when treated properly. However, many growers in New Jersey used it on trees as young as two years old last season without enough injury to keep them from applying it again next season.

Amount of Material

One ounce is the maximum quantity needed for any tree. It can be seen from the foregoing record that the half-ounce treatments were practically as effective as the ounce, even on large trees. This may have been due in a measure to the favorable season, and results of other work do not credit the half-ounce treatment with as great effectiveness, so it is advisable to use the ounce treatment on large trees at any rate. The best way to measure out the material is to have an ounce weighed out at a pharmacy and get a small measuring glass or wine glass, marking the ounce level with a file or diamond.

Method of Application

The grass and rubbish is removed from the base of the tree for a distance of eighteen inches or two feet. If the borers are deep down on the roots the soil is not disturbed. If they are high up on the trunk, earth is leveled up as high as the topmost galleries of the borers. The Paradichlorobenzene is poured in a narrow band as close to the tree as possible without touching the bark. Three or four inches of earth are thrown over it, laying the first few shovelfuls on it carefully, so as not to disturb the ring of Paradichlorobenzene. It is not essential to tamp the earth, altho this will probably help hold the gas from escaping.

Cost of Application

The cost of applying Paradichlorobenzene is very low, from 2½¢ to 4¢ per tree, depending on the amount of grass to be hoed from the base of the tree, and the amount of mounding before the material is applied. A crew of three men, one hoeing away, one applying Paradichlorobenzene and one covering it up can do from thirty to forty trees per hour, or at a labor cost of a little over 2¢ per tree, while if hoeing is not necessary, one man can be eliminated, reducing the labor cost to about 1½¢ per tree.

Compare this with the cost of a man spending from 5 to 15 minutes per tree, twice a year, at a cost of from 6¢ to 12¢ per tree. Then consider that the tree is uninjured by the material, but considerably injured by the knife; while with the gas the borers are killed before they do any damage while under the old method they could almost girdle a tree between wormings.

Paradichlorobenzene may now be secured from many sources, almost all of the big supply houses handling it. In ordering it, it should be specified that the material is to be finely ground, for use in controlling peach borers, in

order not to get the ordinary Paradichlorobenzene of large crystals.

Veterinary.

CONDUCTED BY DR. W. C. FAIR.

Advice through this column is given free to our subscribers. Letters should state fully the history and symptoms of each case and give name and address of the writer. Initials only are published. When a reply by mail is requested the service becomes private practice and \$1 must be enclosed.

Crib Biting—I have a valuable six-year old horse that cribs, at least that is what I term it. I have never saw him suck-wind, just hooks teeth on manger, feed box or corners of wood. Seems to bother most when fed oats instead of corn. He is not a hard keeper. What treatment do you recommend? H. J. G., Twining, Mich.—First of all let me say that Crib-Biting in horses is usually incurable. Covering stable fixtures with metal and avoid articles which can be bitten; feed off the floor or ground, or remove manger after feeding. Feed easily digested food, keep him away from other horses to avoid acquisition of the trick or vice.

Tuberculosis—We have a cow which has a good many of the symptoms of tuberculosis, such as labored breathing, chronic cough. She is due to freshen right away. Have no veterinarian near here. Can I do the testing myself? Is the milk from a cow that has tuberculosis fit to give a child past four years of age? Mrs. C. S., Gros Cap, Mich.—When a cow is suffering from tuberculosis in the advanced stages a physical examination will generally tell what ails her; however, this is not always the case. An inexperienced person is wholly unfit to make this test, because the life of the animal hinges upon the diagnosis, besides manufacturers dislike to market tuberculin to laymen. Report the matter to State Veterinarian, and he will advise you right, besides the advice is free and the work is done for you at slight cost. Milk unfit for children.

Bunches On Leg—Have four-year-old cow that has several small hard bunches on hind leg. What had I better apply? O. F., Fowlerville, Mich.—Clip off hair and apply one part red iodine of mercury and eight parts lard twice a week.

Bloody Milk—In May I had a two-year-old heifer freshen. She had no trouble, bag was not caked or even tender, as she stood quietly to be milked. Now some blood comes with milk. T. F., Bay Shore, Mich.—A slight bruise of the udder, or rough milking will cause a cow to give bloody milk. Dissolve 1 oz. acetate of lead in one quart of cold water and apply to bag three times a day.

Stringy Milk—I have a four-year-old cow that came fresh last February, now she gives stringy milk from one quarter and what ever it is it is growing worse. R. H. S., Whittemore, Mich.—Give her a teaspoonful of hyposulphite of soda in feed or in drinking water twice a day. Apply one part tincture of arnica and fifteen parts cold water to bruised udder three times a day.

Indigestion—I have a heifer, 18 months old, which lost her appetite last March, since then she has not grown any to speak of. She is very thin, but my other stock in same lot looks fine. F. C. H., Clarion, Mich.—Feed her some grain twice a day, give her a dessert spoonful of Fowler's Solution in either feed or in drinking water twice a day.

Rachitis—We are anxious to find out what ails our spring pigs. They seem to be hungry, will take a mouthful, sometimes tumble down and drag hind legs. Had several get in this condition and die. We took a dead pig to veterinary, the only part he found wrong was the bone and that was slightly decayed. L. R., Midland, Mich.—Feed less corn, more oats, oil meal, tankage, green feed and milk. The pigs should be kept in dry, clean well-lighted place. Add lime water to their milk or mix some lime with their grain.

Where is the station located that uses the call letters WGY?

Schneckady, New York, broadcasting station sending concerts on 360 meters.

CATTLE

ANNUAL SALE

Large Type Poland China Swine

New Stock Pavilion
Hillsdale Co. Fair GroundsThursday, Oct. 19, 1922
50 Head Boars & GiltsBetter than ever
"There's a reason"F. E. HAYNES,
Phone 603 Osseo, Hillsdale, Mich."Pigs is Pigs" But
Hayne's Pigs is HogsWatch this space for further
details

RICHLAND SHORTHORNS

We are offering two splendid white yearling bulls by Imp. Newton Champion and a few extra good heifers and young cows at very attractive prices. For full particulars write to

C. H. PRESCOTT & SON,
Herd at Prescott, Mich.
Office at Tawas City, Mich.

Claradale Milking Shorthorns
We invite the discriminating breeder and farmer, who is in need of a real bull, that will transmit the combine qualities, beef, milk, high in butter fat, type, character, beauty. We do state official milk testing. Come and see us or write for circulars and reasonable prices. F. W. Johnson, Custer, Mich., Mason Co. Box 26

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

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

Shorthorns for sale. ENTIRE herd just
passed State Tuberculosis test.
J. A. BARNUM, Union City, Mich.

Don't you want a good Shorthorn, priced
in keeping with the times?
ROBERT MARTIN, R. 3, Woodland, Mich.

Milking Shorthorns Bull calves for
sale. Also 2 cows.
ROSEMARY FARMS, Williamston, Mich.

Milking Shorthorn Bull Calves 1 to 12 mo. old. Best
Clay breeding. These are good calves priced
to sell. IRVIN DOAN & SONS, Crosswell, Mich.

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bred for July, Aug. and Sept. farrow for sale at
reasonable prices. Also a few high class spring
and fall boars ready for service and one 2 yrs. old
boar, a grandson of Panama Special, at a bargain
if you can use him. We guarantee satisfaction.
Write for prices and description or better come
and see them. Visitors always welcome. Sows
bred for spring farrow all sold.
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Greatest Blood Lines in Duroc Hogs

Herd Boars by Great Orion Sensation, Pathfinder,
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for sale three yearling boars by Wolverine Sensa-
tion. For sale at all times, sows, gilts or boars
registered. Sold under a positive guarantee and
worth the money. Write for prices,
L. A. BURHANS, OWNER

You Want One of the best Duroc
sows obtainable. We
have them for sale. Fall gilts and tried sows.
Our herd boar headed 2nd prize aged herd at 1921
Illinois State Fair. MICHIGANA FARM, Kalamazoo
County, Pavilion, Mich.

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a great offering of bred Duroc sows and gilts March
4th. They are mostly bred to Orion Giant Col., son
of Ohio Grand Champion. Get on mailing list for
catalog. W. C. TAYLOR, Milan, Mich.

Woodlawn Farm Duroc Hogs
A well kept herd, best of blood lines, with size and
breeding qualities, stock of all ages for sale at rea-
sonable prices. W. E. BARTLEY, Alma, Mich.

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

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

Westvie v Duroc Bred Sows
all sold. Have two spring boars left at a reasonable
price. Will book orders for April & May Pigs.
ALBERT EBERSOLE, Plymouth, Mich.

Duroc Jersey Bred sows and gilts bred for Aug. and
Sept. farrow. A few choice ready for
service boars. Shipped on approval. Satisfaction
guaranteed. F. J. DRODT, R. 1, Monroe, Mich.

Oakwood Farm offers choice gilts of Orion
Cherry King and Walt's Top
Col. breeding bred to Pathfinder or Orion for Aug. and
Sept. farrow. RUSH BROS., Romeo, Mich.

DUROC-JERSEYS

We offer a real herd header in Brown's Prince
Orion 159149. Type and breeding all that could
be desired. All stock immune. Priced to sell.
WHITNEY FARMS, Whitney, Mich.

DUROC-JERSEYS Do you want a good
Pathfinder boar pig?
E. D. HEYDENBERK, Wayland, Mich.

Big Type Chester White March boars. Sired
by Model's Giant and Hill's Big
Buster. Out of granddaughters of Alfalfa Wonder.
LUCIAN HILL, Tekonsha, Mich.

BIG TYPE CHESTER WHITES

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

O. I. C. and Chester White's. Strictly big type
with quality. I have nothing to offer
at present, as I have sold my largest herd and en-
tire herd I was fitting for the large shows, to Earle
Morrish, of Flint, Mich. I am confident Mr. Morrish
now has one of the very best herds in the State.
ALBERT NEWMAN, R. 4, Marlette, Mich.

O. I. C. December Gilts From Big Type Wonder's
Dick. Bred to farrow in
Oct. by Silver Horde, extra good young boar direct
from Silver's. Booking orders for spring pigs.
CHAS. H. STEEL, R. 3, Eaton Rapids, Mich.

CHESTER WHITES Start right
with a Boar
Pig from MONSTER NO. 107335. They are hard to
beat. FRED L. BODIMER, Reese, Mich.

Chesters We are sold out of Boars. Choice
spring pigs. For immediate shipment
of spring pigs, write, WEBER BROS., Royal Oak,
Mich., 10 mi. and Ridge Hds., Phone 408.

O. I. C. fall gilts ready to breed. Orders booked for
Oct. by Silver Horde, extra good young boar direct
from Silver's. Booking orders for spring pigs.
GEO. M. WELTON & SON, Middleville, Mich.

O. I. C. Gilts to farrow in Aug. and
Sept. and March boar pigs.
CLOVERLEAF STOCK FARM, Monroe, Mich.

O. I. C. Bred gilts all sold. Orders
booked for spring pigs.
A. J. BARKER & SON, Belmont, Mich.

O. I. C. Bred sows all sold. Booking orders
for spring pigs.
H. W. MANN, Dansville, Mich.

O. I. C'S. last fall gilts due Aug. and Sept.
Spring pigs not akin. Big Type.
1-2 mile west of Depot. Citizen Pk. Now offer 25
OTTO B. SCHULZE, Nashville, Mich.

L. T. P. C. Fall Boars

at bargain prices. Fall gilts open or with breeding
privilege. Write or see them.
A. A. FELDKAMP, R. 2, Manchester, Mich.

Big Type Poland China Spring boars
at \$15 each.
Sired by Clansman Buster and Hovers Liberator.
Also gilts bred for Sept. farrow at \$30 each. All stock
shipped on approval. Come and see them or write
DORUS HOVER, Akron, Mich.

For 30 years we have been breeding Big Type
Poland China hogs on the same farm. We
have sold over 100 head each year for the last 15 years
for breeding purposes. There's a reason! The farmer
has found our kind very profitable. Now offer 25
sows and gilts bred for summer farrow, \$30-\$50.
JNO. C. BUTLER, Portland, Mich.

LARGE TYPE POLAND CHINAS
Boars and gilts for sale from one of the best herds in
Mich. Sired by B's Clansman, Mich. 1921 Grand Cham-
pion. Alasha, M and W's Orange and Daddy Long
Legs 2nd. Give us a visit and look them over if not
write to N. F. BORNOR, Parma, Mich.

L. T. P. C. Gilts bred for Spring litters all
sold. Am offering very choice Sum-
mer Gilts bred for June and July farrow. All Fall Boars
and Spring Pigs. Clyde Fisher, R. 3, St. Louis, Mich.

Francisco Farm Poland Chinas

Big, Stretchy Spring Boars as good as grow. Pairs
and Trios not akin. Can spare two or three of our
good herd sows bred for Sept.
P. P. POPE, Mt. Pleasant, Mich.

L.T.P.C. \$15, \$20 & \$25

Spring pigs with real breeding at the above
prices. We are also offering a few choice fall gilts
bred for summer farrow. Hart & Cline. Ad-
dress F. T. HART, St. Louis, Mich.

LARGE TYPE P. C.

Largest in Mich. Pig ready to ship, why not order
from the herd that has given so many their start in
the hog business, the kind that makes good, they
have quality as well as size.
W. E. LIVINGSTON, Parma, Mich.

Big Type Polands We have a fine bunch of
spring pigs representing the
best blood lines and all cholera immune. We raise
them to sell. If in need of a real herd boar prospect,
come over. Visitors are always welcome.
WESLEY HILL, Ionia, Mich.

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

L. T. P. C. Spring boars and gilts now being shipped,
There's a reason. They never last long.
Write M. M. PATRICK, Grand Ledge, Mich.

BIG TYPE P. C. Boar Pigs. Sows and Fall Gilts bred
for Sept. to Big Bob Mastodon and Peter A. Pan,
son of \$1075 Boar. C. E. Garnant, Eaton Rapids, Mich.

BIG TYPE Poland Chinas, leading strains
at lowest prices. Both sex, all
ages, and bred sows and gilts.
G. A. BAUMGARDNER, R. 2, Middleville, Mich.

LEONARD'S B. T. P. C. Herd headed by Leonard's
Liberator. Orders booked for boar pigs at weaning
time. Call or write E. R. LEONARD, St. Louis, Mich.

Large Type P. C. A few spring yr. gilts bred
for Aug. and Sept. farrow.
H. O. SWARTZ, Schoolcraft, Mich.

P. C. Swine. Sows and pigs, sows bred for Aug. and
Sept. farrow, spring and fall boars, best of breed-
ing, satisfaction guaranteed. R. W. Mills, Saline, Mich.

Walnut Alley Big Type, Poland China, the kind that
go. A. D. GREGORY, R. 3, Ionia, Mich.

Lone Maple Farm L. T. P. C. March Boars and gilts
ready. Prices reasonable, stock as
represented. F. R. Davis & Son, R. 3, Belding, Mich.

Hampshires book your order for spring boar pigs now
A few gilts, now ready for summer farrow.
JOHN W. SYNDER, R. 4, St. Johns, Mich.

Alcain Farm Tamworths. The long red bacon hog.
Choice spring pigs of either sex for sale.
Also a few yearling sows bred to farrow in Aug. and
Sept. Everything registered and priced right.
W. F. ALLEN, R. 2, Clinton, Mich.

HORSES

BELGIAN DRAFT HORSES
See our Exhibit of Belgian Draft Horses at the Mich-
igan State Fair. We have the largest and best
herd in the world to select from. Good Draft Horses
are the best and cheapest power on the farm. Brood
mares that raise colts and do your work can not be
beat by any other power. Buy the right kind of horses
just once and you will have power to sell. We have
some real bargains in brood mares. Oweso Sugar
Company's PRAIRIE FARM, Aloia, Mich.

LATEST MARKET REPORTS

GRAIN QUOTATIONS

Tuesday, August 29.

Wheat

Detroit—No. 2 red, \$1.08; No. 2 mixed and No. 2 white \$1.06.

Chicago.—No. 3 red \$1.03½@1.03½; No. 2 hard \$1.06¼@1.07; September \$1.02.

Toledo.—Cash \$1.08; September at \$1.07.

Corn

Detroit.—Cash No. 2, 69c; No. 3 yellow 68c.

Chicago.—No. 2 mixed at 62@62½c; No. 2 yellow 62¼@63c.

Oats

Detroit.—Cash No. 2 white, 38c for old and 36c for new; No. 3, 34c for new.

Chicago.—No. 2 white 34@36c; No. 3 white 32½@34c.

Beans

Detroit.—Immediate and prompt shipment \$6; September \$5.50 per cwt. New York—Michigan and New York red kidney, \$8.75@8.80.

Chicago—Michigan choice, hand-picked, \$9@9.15; red kidneys at \$8.75@9.

Rye

Detroit.—Cash No. 3, 73c.

Chicago.—69¼c.

Toledo.—74c.

Seeds

Detroit.—Prime red clover cash at \$10; alsike, \$10; timothy, \$2.75.

Toledo.—Prime red clover at \$9.75; alsike \$10.10; timothy \$2.70.

Feeds

Detroit.—Bran at \$25; standard middlings, \$26; fine middlings, \$30; cracked corn, \$32; coarse cornmeal at \$29; chop, \$24.50 per ton in 100-lb sacks.

Hay

Detroit.—No. 1 timothy at \$17@18; standard and light mixed, \$16@17; No. 2 timothy \$14@15; No. 1 clover \$15@16; rye straw \$11.50@12; wheat and oat straw \$10.50@11 per ton in car lots.

Fruit

Chicago.—Pears, Early Clapps \$1.25 per bu; peaches, Elbertas \$1.25 per bu; plums per 16-qt case \$1; blackberries per 24-pt case \$3@3.50; grapes, baskets 5@5½ lbs 20@22c; apples, Duchess \$1.50@2 per bbl; Wealthies \$4@4.50 per bbl.

WHEAT

Wheat prices have been moving over a narrow range in the past week and the market shows signs of stability. Exporters and millers have been making purchases on the breaks but do not follow the market on upturns as the receipts which have declined about 25 per cent from the high point of the season remain considerably above the corresponding period in previous years. A ten-year average of receipts by weeks at primary markets shows that the peak of the movement has been reached around the last week in September or the first week in October when winter wheat is still moving freely and the spring wheat movement is at its height. In addition to the big run of spring wheat the market must still bear the brunt of the Canadian movement. Harvest is progressing in that country but the receipts at Canadian terminals are only about one-third as large as they will be during the fall months.

CORN

The corn market has maintained a strong tone during most of the past week. Further damage reports were numerous from Nebraska, Kansas and Oklahoma and parts of other states but the total reduction in the crop prospects compared with the government's August 1 estimate is probably not over 100,000,000 bushels. The greatest source of strength is the continued demand for cash corn which has been absorbing receipts above the average right along and in addition has reduced the visible supply at terminals by 70 per cent within three months. It is generally believed that the farm supply at the end of the crop year will be but little above normal.

OATS

There is nothing urgent in the demand for oats. Receipts since the new crop started to move have been falling behind the average for the correspond-

ing season but stocks at terminals are large and are gradually increasing.

SEEDS

The timothy seed crop is estimated by the Department of Agriculture to be five to fifteen per cent less than that of last year. Both the acreage and the yield per acre are smaller than a year ago. Cloverseed markets have been stronger in the last week although the outlook for a good crop is favorable. Since July 1 receipts of timothy seed at Chicago have been 3,704,000 pounds compared with 5,466,000 pounds in the same period a year ago and 1,590,000 pounds two years ago. Receipts of clover seed this year total 1,375,000 pounds against 3,504,000 pounds last year and 1,430,000 pounds two years ago.

FEEDS

The southwest is showing interest in the bran market but otherwise the demand for feedstuffs is negligible, although prices are practically the lowest of the season. Flour mills are said to be storing feeds instead of selling at the prices offered. Cottonseed meal stocks at mills are about twice as large as at this time last year. The high price for flaxseed compared with other grains is expected to bring an early movement after harvest. With the demand full, process for linseed oil meal are weak.

BEANS

The market is dull and slow. Sellers are usually ready to accept any reasonable bids. Foreign white beans have piled up in first hands and are now pressed for sale at very low prices. Michigan white beans are not quoted. Red kidneys are dull but with quotations fairly steady. Roumanian pea beans are quoted at \$6@6.25 and Jap-

anese marrow at \$4@4.25, while Michigan marrows bring \$9@9.25.

HAY

Hay markets are irregular, some being strong and others weak, depending upon the volume of receipts. Demand at all points is dull. Some hay is going into storage but dealers avoid all but the low grades which are selling at big discounts in consequence.

WOOL

Seaboard wool markets are reported to be moderately active with prices firm, with the exception of fine combing wools which have eased slightly. The dull season in wool manufacturing generally lasts until after Labor Day, and the wool tariff still is a matter of conjecture. Foreign markets have been strong and the impression is widespread that an eventual shortage impends.

The Boston market is quoted as follows: Michigan and New York fleeces: Delaine unwashed 52@53c; fine unwashed 43@45c; half-blood unwashed 46@47c; three-eighth blood unwashed 45@46c; quarterblood unwashed 41@42c.

POULTRY AND EGGS

Egg prices have advanced about four cents at Chicago from the low day of the year. Dry hot weather and the moulting season have reduced production so that the supply of fresh eggs is inadequate to consumptive needs and 10,000 to 12,000 cases are being withdrawn from storage daily at the four leading markets. The poultry market is working lower. A rather large carryover of storage poultry is expected when the new storing season starts and in addition it is generally believed that receipts this fall and winter will

be 25 per cent larger than a year ago. Spring chickens held until later in the fall will gain in weight but the increase may be more than offset by a decline in the price obtained.

Chicago.—Eggs, checks 15@16c per dozen; fresh firsts 23½@24c; ordinary firsts 20@21c. Live poultry, hens 21c; broilers 24c; springers 24c; roosters 13½c; ducks 21c; geese 18c; turkeys 25c per pound.

Detroit.—Eggs, fresh candled and graded 21@22c. Live poultry, heavy springers 28@30c; light springers 23@24c; heavy hens 22@23c; light hens 18@19c; roosters 15c; ducks 18@20c; turkeys 25c.

BUTTER

Delayed shipments of butter arrived on the distributing markets early last week but the increase was absorbed with only a small decline in price and the market was firm at the close. Production is believed to be falling off rather steadily although there is some irregularity in the changes in arrivals at the leading markets from week to week. Owing to hot weather the percentage of under-grades is rather excessive. Consumptive demand is highly satisfactory on the whole and the position of the market is relatively strong.

Prices on 92-score fresh butter were as follows: Chicago 34½c; New York 36¼c. In Detroit fresh creamery in tubs sells for 32@32½c.

POTATOES

The potato markets have shown a little more strength in the last week. The total carlot movement remains large and consuming centers report large arrivals of nearby stock. Northern round whites are beginning to show up. New Jersey is the principal shipper, with Idaho, Minnesota, Colorado and New York following in order.

APPLES

The apple market continues weak, with the carlot movement about 60 per cent larger than a year ago. New York, California and Michigan leading. Good apples are quoted at 50 cents to \$1 per bushel in midwest consuming markets compared with \$2@3.50 a year ago.

DETROIT CITY MARKET

The supply of cucumbers and tomatoes was heavy but the offerings of other products were light to moderate. However, the demand was good for both cucumbers and tomatoes but slow for apples, cabbages, radishes, celery, and green onions. The prices are as follows: Duchess apples 50c@1.25 a bu; Wealthy apples 40c@1.35; cucumbers 40c@1.25 per bu; cucumbers (dills) \$1.50@2.50; cabbage 30@60c a bu; carrots 75c@1 per bu; grapes \$3 @4 per bu; potatoes \$1@1.40 per bu; peaches \$1@3 per bu; peas \$1.25@1.75 per bu; plums \$1.25@3.25 per bu; tomatoes 50c@1.50 per bu; green onions 25@60c per dozen bunches.

GRAND RAPIDS

Apples, peaches, pears and plums were selling at prices less than the cost of production on the Grand Rapids markets this week. Supplies were liberal and the demand was weak, particularly for apples and plums. Apples were selling at 30@50c per bu., except Strawberry apples which ranged from 75c@1.25 per bushel. Lombard plums, some of the best ever produced in western Michigan, were a drug on the market, moving slowly at 25@50c per bushel, packages returned. The Grand Rapids Growers' Association has been shipping on an average of five and six cars daily. It also is shipping pears, peaches and apples, putting up fancy grades with its grader. Bartlett pears were selling on this market this week at 60c@1.25 per bushel, mostly around 75c@1. Peaches ranged from \$1@3 per bushel, according to variety, grade and color. A few Elbertas and New Prolifics came from the Grand Rapids territory while whole truckloads of this variety were offered from Benton Harbor. Cantaloupes were easy at \$1@2 per bushel. Watermelons were selling at \$1@1.50 per dozen. Early grapes were selling at \$1 per half bushel, or \$2@2.50 per dozen five-pound baskets. Potatoes were dull at 60@70c per bushel. Tomatoes moved slowly at 30@40c per bushel. The market was a little better than last week as a result of one canning factory bidding for supplies.

Live Stock Market Service

Wednesday, August 30.

DETROIT

Cattle

Market steady at opening, but closed lower.

Best heavy str., dry-fed..	8.00@ 8.50
Handyweight bu., dry-fed..	7.25@7.75
Mixed str., hirs., dry-fed	5.50@ 6.50
Handy light bu., dry-fed..	5.00@ 5.50
Light butchers	4.00@ 5.00
Best cows	4.75@ 5.00
Butcher cows	4.00@ 4.50
Common cows	2.75@ 3.00
Canners	2.00@ 2.75
Choice bulls	4.75@ 5.00
Bologna bulls	4.00@ 4.50
Stock bulls	2.50@ 3.50
Feeder	5.50@ 6.25
Stockers	4.00@ 5.50
Milkers and springers...	40.00@75.00

Veal Calves

Market is steady on good, very slow on culls and heavy weights.

Best	\$13.00@13.50
Others	4.00@12.50

Sheep and Lambs

Market steady.

Best lambs	\$12.50@13.00
Fair lambs	9.00@11.00
Light to common.....	6.00@ 8.50
Fair to good sheep.....	5.00@ 6.50
Culls and common.....	1.00@ 2.50
Heavy sheep	4.00@ 4.50

Hogs

Market steady.

Mixed hogs, 220 lbs down..	9.85
Heavies, 220 lbs up.....	8.50@ 9.25
Roughs	6.75
Stags	4.50@ 5.00
Pigs	8.50

CHICAGO

Hogs

Estimated receipts today are 18,000; holdover 10,555. Light weight are very active, around steady, little doing on others. Bulk of sales at \$6.40@9.65; tops \$9.75; heavy 250 lbs up \$7.70@9.25; medium 200 to 250 lbs \$8.85@9.75; light 150 to 200 lbs \$9.40@9.75; light lights 130 to 150 lbs \$8.75@9.60; heavy packing sows 250 lbs up \$6.50@7.25; packing sows 200 lbs up \$6@6.65; pigs 130 lbs down \$7.25@8.50.

Cattle.

Estimated receipts today are 11,000. Market steady to 15c higher. Beef steers medium and heavy weight 1100 lbs up \$10.35@11; do medium and good \$8.15@10.35; do common \$6.25@8.15; light weight 1100 lbs down at \$9.15@10.60; do common and medium \$6@9.15; butcher cattle heifers \$4.85@9; cows \$3.65@8; bulls bologna and beef \$3.85@6.60; canners and cutters cows and heifers at \$2.50@3.75; do canner steers \$3.75@4.50; veal calves light and handyweight \$11@12.25; feeder steers \$5.50@8; stocker steers \$4.75@7.50; stocker cows and heifers at \$3.50@5.50.

Sheep and Lambs.

Estimated receipts today are 15,000. Market steady. Lambs 84 lbs down \$12@13; do culls and common \$8.50@11.75; spring lambs \$8.75@11.25; ewes \$3.50@7.50; ewes cull and common at \$2@4; breeding ewes full mouths to yearlings \$5@11.75; yearling wethers \$11.50@13.

BUFFALO

Cattle

Receipts 15 cars. Market is slow. Choice to prime shipping steers 1400 lbs and up \$10@10.50; good to choice shipping steers \$9@9.50; heavy grass steers, good quality \$8.50@9.25; light native yearlings fancy quality \$10.50@11; medium to good at \$3.50@4; best handy steers \$8.50@8.75; handy steers and heifers \$7@7.25; western heifers \$6.50@7; light Michigan butchering heifers \$6@6.50; best fat cows \$5.50@6.25; medium to good \$4.25@5; cutters \$2.50@3.50; canners at \$1.50@2; best heavy bulls \$3.75@4; heavy bologna bulls \$3@3.25; best feeders 700 to 800 lbs \$6@7; medium feeders at \$5.50@6.50; stockers, good at \$4.50@5; light common at \$3.50@4; best milkers and springers \$80@90; common \$25@40. Calves, tops at \$14.

Hogs

Receipts 25 cars. Market is steady. Heavy \$9.25@9.50; mixed and yorkers \$10@10.10; pigs and lights \$8.75@9.25.

Sheep and Lambs.

Receipts nine cars. Market strong. Top lambs \$14; yearlings at \$8@10; wethers \$7@8; ewes \$4.50@6.50.

Potato Growers' Meeting

(Continued from page 223).

by R. S. Wellman shows that prevailing freight rates militate against the Michigan grower and to the advantage of the farmers of Wisconsin, Minnesota and other western states. The development of the Petoskey Brand of Russet potato has reached a point where jobbers in some districts are asking for the exclusive sale of this brand in their respective markets. The prices received for this branded stock varied from 1 cent to 15 cents above the price received for U. S. No. 1 stock. The shipment of this stock amounted to 346 cars. The establishing of a special sales agency was endorsed by Mr. Wellman who felt that the first year's work had built up connections with reliable dealers to a point where the success of the arrangement was assured. He advocated the confining of sales to a relatively small territory easily reached by transportation connections with the commercial potato districts. This year 783 cars were sold to Ohio points, 586 cars to Indiana, 562 to Pennsylvania, 272 to Illinois, 79 to Michigan, 50 to West Virginia, 48 to Kentucky, 39 to Washington, D. C., 14 to Virginia, 3 to Missouri and one each to Maryland, North Carolina and New York.

Editor C. C. Wells of the Michigan Potato Grower's Exchange reported an income of \$2,527.71 from subscriptions and \$3,751.29 from advertising. The total expenses allowing \$3,000 for salary charges made the cost of the paper to the association about \$2,600.

New directors elected were S. E. Rogers of East Jordan and O. S. Wood of Barryton to fill the vacancies due to the expiration of the terms of C. A. Wood and Oscar Weirich.

Resolutions were adopted favoring closer cooperation with other cooperative associations of the state, endorsing Pres. Friday's program for the Michigan Agricultural College, and recommending that whenever any member of the Board of Directors is elected to a salaried office in the Exchange that he resign from the Board.

At a meeting of the directors following the delegate meeting, Henry Curtis was re-elected president; Fred Smith, vice-president; S. E. Rogers, secretary; treasurer, O. S. Wood. The appointment of a manager was postponed till the September meeting.

WILL MARKET CERTIFIED POTATOES

SO far as is known Michigan potato growers are the first to work out a comprehensive plan for growing, inspecting, advertising and selling certified seed potatoes. Their plan, which is backed up by an effective system of inspection and no small amount of experience, is explained in the following resolutions considered and adopted by both the Michigan Potato Growers' Exchange and the Michigan State Farm Bureau:

Resolution adopted by the Executive Committee of the Michigan Potato Producers Association, August 16th, 1922, at Cadillac:

1. Whereas, it is necessary that a satisfactory plan for the sale of Certified Seed Potatoes must be immediately perfected, the following sales plan is adopted and its acceptance by the Michigan Potato Growers' Exchange and the Michigan State Farm Bureau is urgently desired.

2. The Executive Committee of the Michigan Potato Producers Association recommends that the Michigan Potato Growers' Exchange and the Michigan State Farm Bureau co-operating be official Selling Agencies for Michigan Certified Seed Potatoes.

3. Fifteen cents per hundred weight shall be allowed for selling, advertising and final inspection. The Michigan Potato Growers' Exchange shall receive ten cents per hundred weight for each hundred weight sold by the Exchange, for selling and final

inspection, and for each hundred weight sold by the Exchange, the Farm Bureau shall receive five cents for adequate advertising. For each hundred weight sold directly by the Michigan State Farm Bureau, the Farm Bureau shall receive fifteen cents per hundred weight for selling, final inspection and advertising.

4. The Michigan State Farm Bureau and the Michigan Potato Growers' Exchange shall co-operate in the final inspection of certified seed potatoes, employing inspectors approved by the Michigan Agricultural College.

5. A minimum price for Michigan certified seed potatoes, based on the cost of production and market conditions, shall be fixed by the Executive Committee of the Potato Producers

State Department of Agriculture

(Continued from page 224).

thorized by law, the sale of unimproved lands and lands not suitable for agricultural development within the State by fraud, misrepresentation or deceit and the publication of false or misleading statements or advertising matter designed to effect such sales."

By the authority vested in the Commissioner of Agriculture by the first part of this section, he is able to foster and promote all movements that tend to better agricultural conditions in the State. He is always in a position to extend a helping hand. In short, he is able to "keep the home fires burning" where all those interested in bettering agricultural conditions can gather around and be sure of assistance, encouragement and a welcome. By the authority vested in him by the last part, he is able to put the State stamp of disapproval upon misdirected or injurious activities, and evoke the strong arm of the law where fraud or deceit is practiced.

A majority of the activities of this department are of the preventative nature rather than the curative. I think I could safely say that 80 per cent of the activities of this department are along preventative lines and that 90 per cent of the benefits that accrue to the State of Michigan by virtues of the operation of these bureaus come from the work done along those lines.

The legislature from time to time has proceeded under their police power to enact laws for the protection and safe-guarding of the interest of the individual. Judge Cooley says, the police power of a state "embraces its whole system of internal regulation, by which the state seeks not only to preserve the public order and to prevent offense against the state, but also to establish for the intercourse of citizens with citizens those rules of good manners and good neighborhood which are calculated to prevent a conflict of rights and to insure to each the uninterrupted enjoyment of his own so far as is reasonably consistent with a like enjoyment of rights by others."

It comprises that portion of the sovereignty of the state which was not surrendered by the terms of the federal constitution to the central government. * * * Finally, it has been said that by means of this power the legislature exercises a supervision over matters which involve the common weal, and enforces the observance, by each individual member of society, of the duties which he owes to others and to the community at large."

It is under and by virtue of legislative authority, under the police power of the state, that a great deal of the work of this department is being carried on. It may be truly said that we are honestly endeavoring "to insure to each, the uninterrupted enjoyment of his own so far as is reason-

Association. This price is subject to change by the committee when advisable.

6. It is recommended that the Executive Committee of the Michigan Potato Producers Association be enlarged to include a representative of the Michigan Potato Growers' Exchange and a representative of the Michigan State Farm Bureau.

Executive Committee,
Michigan Potato Producers Ass'n.

Resolution adopted by the Executive Committee of the Michigan Potato Producers' Association at meeting held August 16th, 1922, at Cadillac:

Resolved by Michigan Potato Producers' Association that no certified seed be sold at a price which will bring the grower less than one dollar per bushel after deducting established selling costs.

Executive Committee,
Michigan Potato Producers' Ass'n.

ably consistent with a like enjoyment of the rights of others." At the same time, we seek to "enforce the observance by each individual member of society of the duties which he owes to others and to the community at large."

It is only when some individual or corporation violates the law and the department has to go into court in order to protect the rights of the state and the individual, that the general public hears of the work of the department. Yet, while that is important, it is but a very small part of our work. For instance, under the law providing for the inspection of commercial fertilizer worth \$10.00 or more per ton, and the regulation and sale thereof, we find that when any firm or corporation wishes to dispose of a commercial fertilizer in the State of Michigan, they must first file with this department the name, brand or trade mark, a certified copy of the analysis, a sealed glass jar containing not less than two pounds of the article thus to be sold or offered for sale, and must then pay a license fee of \$20.00.

All commercial fertilizers so registered are sampled once a year or more, to see that they are keeping up to grade, and a copy of the findings is always on file in this department. The samples are taken by the inspector from several different bags and in a manner that will allow him to get a fair average of the product. If the test is found to be under grade, the matter is taken up with the proper parties, and if a readjustment of prices is not made and a refund to those who have purchased the fertilizer, an embargo is placed upon the product and it is not allowed to be sold in the state. In most cases, the manufacturer of the fertilizer complies with the requirements of the department and there is no trouble and the public hears nothing of the work of the department in the case. In all cases, the department traces the undesirable product to the source of the supply and shuts it off, in this way preventing the product from getting into the hands of the local dealer where it would defraud the public.

In the Bureau of Foods and Standards, the inspectors are continually working to see that the public is not short-weighted, sold goods that are not properly branded or that are injurious to health. While the general public may know or hear little about it, nevertheless their interests are being safe-guarded night and day by their public servants. Figuratively speaking, this department is standing at the gateway of every home in this commonwealth, and saying to the dishonest manufacturer and distributor of misbranded, short-weighted or injurious products, "Thou shalt not pass."

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