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MICHIGAN FARMER

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MICHIGAN SECTION THE CAPPER FARM PRESS

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Opportunities In Early Potatoes

Good Growing Conditions and Home Markets Offer Profit Possibilities

By J. W. Weston,

Extension Specialist, M. A. C.

THE opportunity for the successful marketing of an early potato may be gained by looking at the figures which represent the car movement of potatoes into Detroit from June 1 to September 30, the period when Michigan-grown potatoes are the least in evidence. In 1921 over 800 cars were shipped into Michigan. This last year 440 cars came from New Jersey alone. The reports are difficult to obtain but it would not be far out of the way to say that Michigan takes close to 1,000 cars of potatoes shipped in from the outside during the above

to diseases which are affected by the weather conditions.

Early blight and fusarium wilt are dry weather diseases, while late blight develops in wet cool weather in some districts and wet hot weather in some others.

Insects, such as leaf hoppers and flea beetles are affected by weather conditions, being much more injurious during periods of hot dry weather. The

Manures and fertilizers are used whenever the increased yield pays the additional cost and leaves a profit. For this reason the use of fertilizer is confined to the particular sections where using it is more profitable. The growing of early potatoes invites the practice of using more fertilizer on account of the relatively higher prices received for this crop.

Seed.

The early varieties of potatoes being produced in Michigan are in the main badly affected with various diseases that have caused a decrease in the yield, even without the presence of insects, so that they would have resulted in an actual loss to the grower had he planted them. The amount of early potatoes that are comparatively free from disease and of good yielding quality is so small that it would serve only as a basis for experimental work.

In the northern part of the state potatoes can be grown for seed but hardly for table stock. This, however, can be sold to growers in the southern part of the state for use in the areas where they can be marketed profitably on a large market such as Detroit. Two classes of farmers in Michigan would thus be benefited, the seed growers of the northern part and the market gardeners of the trucking sections. The northern portion of the state will also continue to produce large amounts of the late crop for both table and seed purposes.

Early Varieties.

The varieties of early potatoes rec-

ball, Early Petoskey, Early Eureka, Trust Buster, Irish Daisy and Irish Cobbler.

The Early Ohio is principally grown in the middle west and is grown in large quantities in Wisconsin, Minnesota and North Dakota to supply seed for the southern growers. It constitutes one of our leading commercial varieties.

Some of the variety names belonging to this group are: Early Ohio, Early Market, Early Six Weeks, Ratekin's Red River Special.

The Irish Cobbler is a better yielder than the Early Ohio but not as good a yielder in most sections of the state as the late maturing varieties of the Russet Rural, White Rural and Green Mountain types. It is difficult to get either Irish Cobbler or Early Ohio seed which is pure and free from disease. The Michigan Potato Producers' Association has certified this year approximately 2,100 bushels of Irish Cobblers, but no Early Ohios. The Farm Crops Department of the Michigan Agricultural College, through the extension department, is promoting the growing of pedigreed Irish Cobbler and Early Ohio seed potatoes that will within the next two years give considerable quantity of seed to be tried out in those areas interested in growing early potatoes for market purposes.

Experiments.

The results of experiments at M. A. C. indicate that during the season of 1922 the early plantings before May 11 were the ones that would insure the maximum return. The potatoes were all harvested August 5, giving the earliest planting the normal length of time required to mature an early



Certified Seed Was Used on the Left and Common Seed on the Right.

dates, a majority of which might with profit be produced within the state on lands suited for potatoes, and within trucking distance of our consuming centers.

It has long been the custom of farmers to plant a small quantity of early potatoes so they could have new potatoes and shelled peas for their Fourth of July dinner. The big objection to growing early potatoes has been that yields were so small that they could not be grown at a profit. This difficulty can be overcome by proper recognition to the following factors that influence the successful growing of a crop.

Climate.

The planting date of early potatoes is nearly a month earlier than the average date of the last killing frost. The three southern tiers of counties in Michigan, and the land adjacent to Lake Michigan and Lake Huron, are not subject to frost much after the tenth of May. As it takes less than one month for potatoes to come up the earliest planting date would probably be near April 10. The number of days from planting to harvesting of the early crop varies from eighty to one hundred days. If it is desired to begin harvesting about the first of July, time of planting will need to be done at least by the eleventh of April. Earlier plantings may be made where facilities are at hand to cover the young plants when in danger of frost. A light covering of dirt thrown over them by means of a wheel cultivator with disc attachment will do, then remove dirt immediately following this cool period by use of a weeder run crosswise of the rows. The foliage of the potato plant is particularly subject

plant louse is more abundant during periods of cool moist weather.

Rainfall.

The average rainfall for this section of the southern portion of the Lower Peninsula is between thirty-two and thirty-eight inches, the heaviest in the state. The charts show that the three growing months during this important period has a rainfall in May of 3.7 inches; June 3.5 inches, and July 3.2 inches.

This is during the season of the longest days of the year when plants are making their maximum growth, other conditions being equal. In other sections of the country where early potatoes are grown successfully the rainfall between time of planting and harvesting averages between eight and ten inches.

Soil.

The type of soil has a considerable influence on the earliness of the development of the plants. A sandy loam is best. Sandy loam usually produces potatoes of better quality than heavier soils do. It also has an advantage of remaining in a more mellow condition during the growing season, thus giving the tubers a chance to develop normally and makes it easier to dig the crop. This is especially important in the growing of early potatoes in sections of southern Michigan where the soil is apt to be the hardest to handle during July and August if it is inclined to be heavy. Organic matter or humus is probably the greatest limiting factor in potato soils. It holds light soils together and makes it hold moisture better. It loosens up heavy soils and provides for better drainage and aeration. Muck soils are not suitable for early planting on account of danger of frost.



The Opportunity in Early Potatoes will Appeal to Many General Farmers..

ommended for Michigan are the Irish Cobbler and Early Ohio.

The Irish Cobbler (described by William Stuart in Bulletin No. 176, U. S. Department of Agriculture), represents a class of early maturing potatoes. It is the leading variety in the trucking centers and is gradually replacing other varieties. Northern Maine and Minnesota produce large quantities to supply the seed for the southern truck grower.

Some of the variety names belonging to this group are Potentate, Flour-

crop of potatoes as mentioned previously in the article, eighty to one hundred days. The later plantings might have yielded as well if given as much time for development.

Observations made by the writer in the Detroit area last summer where early potatoes were being grown for that market brought out the fact that the limiting factors in early potato production in southern Michigan were the presence of insects and use of poor seed.

(Continued on page 422).



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DETROIT, MARCH 24, 1923

CURRENT COMMENT

Drain your soil or your soil will drain you.

Forcing boys and girls to work does not necessarily make them industrious.

Ignorance is an enemy which the farmer should hunt with increasing persistence.

Faith in the country boy and girl is the first essential in their successful leadership.

Welcome the day when great community centers will be erected from the stones of self-centered homes.

A strong social spirit can be maintained in a community only when each member of that community contributes his part to its social activities.

Desire health, learn how to get it, and then keep on doing the things which will keep you from getting sick. This is the way to begin building a healthy community.

Community pride is valuable when it is directed toward the advancement of its members and the improvement of the neighborhood.

Nature will soon appear in her spring clothes. As Nature's dress-maker, the farmer should use every effort, for his own interest, to see that her clothes are not too scanty.

The Victor's Part

THE dairymen of America have just won a big fight. It has not been altogether a selfish effort.

They have fought for the health of America as well as for their own business. The recent passage of the anti-filled milk bill by congress was the culmination of this national fight.

But this does not necessarily save the dairy business. It simply makes it possible to save it. In the first place our state must enact a statute outlawing the filled-milk business in Michigan. A bill is now before our state law-makers for this very purpose. Every reader who is concerned about the health of our children and those of future generations, should impress upon his or her representative at Lansing the importance of prohibiting traffic in this manufactured product. Ohio, Wisconsin, California, Colorado, Maryland, Oregon, New York, New Jersey, Utah, Florida, Vermont and Washington have all passed laws either prohibiting, or greatly restricting

the making and selling of filled-milk. Michigan owes it to herself and to the country to go and do likewise.

The second thing has to do with the individual dairyman. He must keep his business above reproach. He must make folks like dairy products better because the goods he produces are clean and wholesome. To do this the farmer-dairyman must make his dairy business pay by keeping profit-making cows and giving them every chance to make good.

The victor must not lose the advantage gained by gloating over the things he has done. He should "dig himself in." To such an end, healthy, high-producing cows are necessary. He may find these most economically through the aid of a good cow-tester and the help that comes from an active cow-testing association.

Those Who Stick

SPRING is coming and we look forward hopefully to a good season. There is something in the air these days of spring that gets into the soul of one and gives him renewed faith and hope and courage. If it were not for this subtle something, few of us would face another season with much enthusiasm, after passing through three successive reverses.

The advise of our best financial authorities is that "now is the time to stick to the farm and do your best, for by so doing only can you be in a position to reap the benefits when the pendulum swings back."

There are many things to indicate that it is about time for the return swing. Legislation, both state and national, has been more considerate of agriculture than ever before; the general public has awakened to the fact that their welfare is dependent upon a prosperous agriculture; not only farmers but business men everywhere are anxious to see prosperity return to the farms. It is a matter of history that public affairs invariably follow the trend of public sentiment.

It has been a rough road that the farmer has had to travel for a ways back, and the going has been hard indeed. Some have floundered, they have our sympathy; some have side-tracked and quit, long may their ashes rest; but there are others who have stuck and they will come through. They are the ones that have the grit, the courage, the determination it takes to win in any field. Who can doubt that their faith will be rewarded? For is not agriculture still, as always, a basic industry upon which all the world depends, and the soil the greatest source of new wealth?

Fault-finding Impulses

IT seems to be a human impulse to find fault; it is such an easy thing to do. With some of us it gets to be a habit and we get rabidly "agin everything what is."

The other day we received a letter from one in this frame of mind. He expressed himself regarding the "d— fool laws" they were passing at Lansing. And the time our legislative representatives were wasting there. He thought the way to eliminate much of this was to make one-third of the representatives farmers and divide the rest among other businesses. But he drew the line on lawyers.

The day we received his letter we also got the following information: Farming topped the list of representatives with thirty-one to its credit, and besides there were a few others who add fruit growing or dairying to their other activities. But next in the list came those old lawyers. Five called themselves attorneys, eight lawyers, and one styled himself as a lawyer and publisher; making a total of fourteen.

The automobile industry, the state's largest, is represented by only one auto dealer, and mining, the third largest industry, (agriculture is second), has only one man there. Most of the other activities have one or two representatives.

The point we wish to make here is: that we are strong for improvement; we want better laws; we would like to see better enforcement of existing laws and we are strong for agriculture. But, with all our human weaknesses, we believe it advisable to try to hold ourselves in check and wait until we have facts behind us to substantiate any fault-finding position we may take. We do not believe that it is for the good of the industry we represent, or ourselves, to go off on a tangent and rip off a few harangues and expressions of opinions without good foundations for them.

For The Forest's Sake

WE grow crops because they are wanted. Demand is the substantial background of every valuable business. Occasionally the demand is created after the product is in existence; but it must be present before the crop is put into the hands of the final consumer.

Fortunate is he who finds a ready demand waiting the harvesting of his product. Still more lucky is the man who is growing a product the demand for which cannot be filled for scores of years. He need only concern himself about production. Selling is of minor consideration. People stand ready to take the goods as soon as they can be delivered.

Such is the situation as regards forest products. The demand has out-distanced resources and supplies to an alarming extent, and users are greatly perplexed now, and more so as to future supplies.

This offers a chance for the farmer who wishes to cut down the number of acres devoted to the production of crops which now drug the market and plant the land to a crop where the demand is assured. That is, it would be but for taxes and some marketing obstacles which could possibly be cleared away through cooperation.

But taxes come often and it takes a long time to grow trees. In producing a single crop of trees, these may, under our present system for raising public funds, be taxed fifty or seventy-five times before the owner realizes from the land. There is a law on the statute books which enables the farmer to escape this tax burden. But in only a very few instances has it been taken advantage of.

A bill has been drafted to give broader application to the statute. It provides that land devoted to forestry will be taxed at land value only, until the crop is grown and then, when the trees are cut, a harvest tax will be levied. We believe that our farmers and all who are interested in the future of our forestry should give the matter careful study and write their opinion to their representatives and senators at Lansing.

The Triunity of Farming

FARMING occupies a unique position in the world's activities. It is man's earliest occupation and his most essential one.

It is the foundation of all business and the basis of all healthy, legitimate prosperity.

In the old days providing for the family was a family endeavor. The home folks made the clothes and prepared practically all the food. In modern industrial life, the man makes the living while the rest of the family spends most of it. And most of the food can be bought ready prepared at the market. The daily activities of the

man and those of the family are almost entirely divorced. Parenthetically speaking, this may be one of the main reasons for so many divorces.

Only in farming is the family intimately involved in the earning of the family's livelihood. Each helps to earn at least a part of his living costs and knows how the crops are doing and what they have brought, or may bring, on the market. This is family life as it was intended to be and as it should be to keep the family unity strong. It is about the only occupation which counteracts the evil influences of our modern life.

In most cases industry is industry, business is business, and living is living, but farming involves all three. So when we try to better farming we must try to make it a better industry, a better business and a better life. When all three are considered a well-rounded improvement is possible.

For industrial, business and moral reasons everybody, everywhere, should be interested in agricultural improvement.

News

THE big book says news is recent informashun and intelligence. Maybe its informashun and maybe sometimes it's recent, but it ain't often it's intelligence.

Most news is 'cause somebody did something that they oughten to done. The things they done they wouldn't a done if they'd used intelligence before they done them. So most news is advertisin' the results of ignorance. And it seems like that kinda news is always the most interestin'. We all wanta to find out how foolish we kin act without sufferin' the consequences.

News is funny.

For inst., I kin do the laudable accomplishment of paintin' my barn red and it will be news for the Hickory Corner's columns. But New York City won't care a darn about it. But if a movie actor come while I was paintin' and get some of the paint on his clothes, then my bull got after him as a consequence, and then he sue me for collision and personal and property damage, also as a consequence, the New York papers would make a front page joke outa it and I could have my picture in the paper. Wouldn't that be fun for other folks?

To "get in the papers" is indoor sport for some folks. But to keep on gettin' in you gotta keep on makin' a fool outa yourself or have some one make one outa you.

I feel like startin' a newspaper myself. I would call it "The Weakly Snooze," 'cause of the calmin' effect it would have on its subscribers. It would be the finest thing out to use for keepin' the flies away while you are takin' your evenin' nap.

In it I would have "the truth and nothin' but the truth." Like for inst.:

Bill Buncomb is puttin' up a good front nowadays while he's runnin' for office, but he's got goose-pimples runnin' up and down his back.

Ira Simpkins is got a ingrowin' dispoishun and the doctors say they can't do nothin' for it.

Hy Syckle caught a bad temper from the baby's colic the other night while he was walkin' the floor.

The Heimbows was glad the Winkles didn't stay for supper Sunday night 'cause they didn't have nothin' cooked.

Wake up and pay your subscription to the Weakly Snooze. Then you can go to sleep again.

HY SYCKLE,
Editor-in-(mis)-Chief.



Sheep on the General Farm

Has the Small Flock a Place on the Average Farm?

By W. A. Freehoff

RANGES in the west are dwindling, and sheep will have to be raised on the small farms of the country.

In talking with a farmer the other day, a man who had been keeping some sheep for nearly fifty years, said to me:

"I'll admit I've had some bad years—very bad ones. But on the other hand, there have been years when my wool clip paid the taxes, which would otherwise have been paid with great difficulty. I am going to keep right on raising my little flock of sheep until I die. In the long run the profits will outweigh the losses."

This same farmer is not keeping as large flocks as he did in the pioneer days; he has set aside more of his land for cattle. He recognizes, however, the economic value of sheep husbandry; and it is farmers like him who will supply this nation with the bulk of its requirements of wool and mutton.

Frank Klenheinz, veteran shepherd at the Wisconsin College of Agriculture, has pithily summed up the proposition as follows:

"From the standpoint of profit I consider:

"First, the small sum of money required for the establishment of a flock; second, the small expense incurred in building suitable shelter for sheep; third, the little care sheep require in the summer, during the farmer's busiest time; fourth, the extermination of weeds on the farm by sheep; fifth, the enrichment of the soil on which sheep graze by the even distribution of their manure.

Sheep have one thing in common with poultry: a farmer is more likely to be successful with few than with many. In the beginning it is a very good plan to get only a few breeding ewes, and grow into the business as experience shows the way. One of the

cheapest ways of starting a flock is to secure young western ewes and breed them to a pure-bred sire of the mutton breeds.

A pure-bred ram is relatively cheap, and without one a flock soon degenerates.

The early lambs are the most profitable, but the production of such lambs requires considerable experience and better equipment. It would probably be better for the beginning farmer to

ings are not needed. Sheep want to be dry under foot, and they do not stand drafts. They are amply protected against cold weather, provided the rain, snow, and wind is kept out of their sheds.

Proper winter feeding of sheep is quite an art, as too heavy, as well as too light feeding is harmful. It is essential that the flock go into winter quarters in a good, thrifty condition. Clover or alfalfa hay of good quality,



The Small Flock is Usually Successful while the Large Flock Often Fails.

breed his ewes for late lambing.

Sheep are the natural prey of parasites, which flourish chiefly during the hot, dry months of summer. For this reason sheep should not be allowed to drink water from old stagnant pools, but should at all times be supplied with pure, fresh water.

Another summer precaution is to insure plenty of green feed. Pastures are likely to get scant in July and August, but the forehanded farmer will have a field of rape ready for them about that time. In the fall, rape which had been seeded in the corn field at the time of last cultivation, will also supply pasturage at a time when the grasses are short.

The winter care of the flock is the most critical, however. Proper shelter is highly essential, but we have already indicated that expensive build-

together with an occasional addition of corn fodder, is all the ewes will need until about a month before lambing, if the lambs are to be dropped before the ewes get into pasture.

No grain ration has given more satisfactory results, in many experiments, than a mixture of whole oats and bran. Both are easily available on the average farm. Either half and half or two parts of oats to one of bran is satisfactory, and each ewe should receive about half a pound of this mixture a day. When other roughages are substituted for the alfalfa or clover, it is best to feed grain all winter long. Do not winter a flock by giving them the run of the straw stack.

To keep the digestive tract in good condition root crops or corn silage should be fed, in amounts not to ex-

ceed two to two and one-half pounds per day. This succulent feed, combined with plenty of exercise, is the best tonic in the world. In dry weather it is advisable to feed the roughage some distance from the barns or sheds, so that the ewes will be forced to walk around considerable.

The closest attention must be paid to the flock at lambing time. Many lambs and an occasional ewe can be saved if the shepherd remains on the job. Then, when the lambs are about a week or two old, some bright day the ram lambs should be castrated. A week or two later all the lambs should be docked.

Lambs should be weaned when they are about three or four months of age. Unless this is done they will nurse until late in the fall, and cause the ewes to go into winter quarters in poor flesh.

Sheep should be sheared as soon as the weather gets warm enough so that there will be no further danger of catching cold. About a week after shearing, the whole flock should be dipped, as the presence of lice and ticks keeps the flock thin.

Professor G. C. Humphrey, a former Michigan, but now of the Wisconsin College of Agriculture, has given the following excellent rules for the guidance of beginners in sheep husbandry:

1. Use good pure-bred rams.
2. Select young ewes. Yearlings, two-year-olds, or perhaps three-year-olds, are far more desirable for starting a flock than older ones.
3. Discard broken-mouthed ewes and ewes with bad udders.
4. Choose ewes having good size, desirable forms, and dense fleeces.
5. Feed the lambs especially well throughout the first year because a sheep makes his greatest growth during this period.
6. Give the flock good care throughout the entire year.

Accounts Indicate Farm Weaknesses

Unique Contest in Wexford County Proves Value of Simple Methods of Bookkeeping for the Farmer



Dorothy M. Smith, Contest Winner.

A COMMITTEE composed of T. T. Riedell, Farm Management Demonstrator, M. A. C.; Roy Noteware, Commissioner of Schools, and Fay Horton, banker, of Manton, examined the books and stories of the Farm Accountants in the consolidated schools of Wexford county, awarding the prize to Dorothy M. Smith, of Man-

ton, who kept the accounts on the farm of Edgar Derbyshire.

This closes the first year's work in the consolidated schools of Wexford county on the project of farm accounting, the students keeping the actual accounts on the farms upon which they live.

The winning of this honor entitled Miss Smith to a trip to Farmers' Week which was furnished by the Cadillac State Bank; the Peoples' Savings Bank, of Cadillac, and the Manton State Bank of Manton, and the Farmers' and Merchants' State Bank of Mesick. These progressive banks are fully aware that accounts on the farm are fully as important as in any other line of industry and have shown their willingness to cooperate by providing substantial funds.

The competition was keen between individuals from all the schools and it gave the committee considerable work to properly award the honors. Among the higher standing contestants stood Dorothy M. Smith, of Manton; Edwin Ransom and Pearl Scrackengast, of Buckley; Ethel Bump and Earl Teal, of Mesick; Clara Phillips, of Hoxeyville, and Gertrude Stiver, of Harlan. Miss Smith's victory lay in the fact

that aside from keeping a good record her story of the work showed a capacity for analysis and interpretation that would be worth much money to any farmer who could do as well.

Farm accounting is one of the main projects in the program of the Wexford County Farm Bureau, and Wm. F. Johnston, county agricultural agent, in casting about for ways and means of carrying on the project, hit upon the idea of teaching it in our consolidated agricultural schools, using the farm upon which the student lived to furnish the problems and exercises. Commissioner Noteware, and the school superintendents immediately gave the idea their cordial support.

Following is Miss Smith's story: **Story Covering My Account Book.**

The benefits to be derived from farm accounting are many. Every business farmer in the United States could testify that his business without a strict method of accounting, would be no business.

I will attempt to point to a few glimmering facts taken from my book.

Number of hens; fifty, and monthly average for each hen is as follows:

January	1.54
February	2.19
March	6.12
April	14.
May	16.
June	12.

(Continued on page 422).



Chickens Belonging to E. E. Shaw, South Haven. Bet He Keeps Accounts.

Senator Capper's Washington Letter

A WARNING that the advance of raw sugar to ten cents is due to a manipulated market dominated by speculators, comes from a great sugar refiner and can not be doubted. It is encouraging to see big business joining with the consumer in proscribing the common enemy. Anything that interferes with consumption and demand is an enemy to prosperous business conditions. It is an inexorable economic law that truly prosperous conditions can not exist except on a fair dealing and live-and-let-live basis. The people will not submit to another raid by the sugar profiteers. Therefore, warnings are timely.

Need Change in Sugar Business.

I have a letter today asking why the government doesn't do something. But the government can only move slowly. This gives the people of the United States a first-class opportunity to make such an example of these bandits that future profiteers won't have to be told that honesty is not only the best policy but is good business. They can do this by bringing economic pressure to bear. Let them cut down at once on sugar—go back to Hoover's war ration of two pounds a month per person. If they will do that for from thirty to sixty days they will have the sugar bandits down on their knees begging for mercy. That would mean sugar at a live-and-let-live price for canning time.

Such a comeback from the public would clean out the sugar speculators,

but legitimate business could stand it, and it is time the sugar gamblers were cleaned out. If the sugar industry isn't big enough to clean house, let the public take a hand. It is time to make an example of the vulture profiteers, and none are more deserving of such discipline than the sugar cormorants.

Senate Report Charges Huge Oil Monopoly.

There's an oil and gasoline monopoly. Nobody was in much doubt about it, but the report of the senate committee on manufacturers, which conducted a long and searching investigation, so officially reports. The report charges "complete control and domination of the oil industry" by Standard Oil in violation of the decree of the supreme court. You remember this famous "divorce decree" of 1911. It ordered the polygamous Standard family to disperse, break up, separate. The monopoly completely dominates and dictates oil and gasoline prices, says the report. LaFollette, chairman of the committee, predicts "\$1.00 gasoline" as a result of price control, "Absurd," says a spokesman for Standard.

Earnings of Standard Oil.

Near the end of last year Atlantic Refining, a Standard Company, declared a 900 per cent stock dividend. That meant nine extra shares for each shareholder for every old share he held. This increased the company's common stock from five to fifty mil-

lions and distributed forty-five millions of new capital. At the same time the company increased its cash dividends from \$20 on old stock to \$4.00 on new stock, in effect increasing the dividend from \$20 a share to \$40 a share. This little table shows the earnings of this company since 1912:

Year.	Earned. Per Share
1912	\$146.00
1913	76.20
1914 (def.)	19.80
1915	111.80
1916	192.60
1917	226.30*
1918	343.20*
1919	238.40*
1920	196.30*
1921 (def.)	100.70*
1922 (est.)	45.00

*Net profit before federal taxes, but after deducting for taxes at federal rate.

In other words, in eleven years the company has earned about \$1,540 a share. Owning Standard Oil stock pays better than some gold mines.

Upsweep of Railroad Earnings.

Class one railroads—those doing a business of a million dollars or more a year—made net earnings in January estimated at five and one-half per cent on their valuation. January is not a good earning month. Some of these roads doubled their net earnings of the corresponding month of 1922.

Nothing is so certain and inevitable now as that rates on basic commodities, particularly of the farm, must come down this year. The rail execu-

tives stood in their own light and rejected all suggestions that agriculture in its plight should be helped along and that helping agriculture out of a hole would stimulate every business in the land. Business had to struggle along upward without this support and agriculture continued paying higher than war freight charges out of lower than war farm prices. It was a typical chapter of short-sightedness by the railroad executives. They would get better treatment from the public if they could occasionally get a glimpse of the public's psychology.

Why Worry?

Senator Calder, a retiring senator, delivered an address on the last day of the session, in which he appealed for the ending of all blocks in congress. There have always been blocks in congress and doubtless will be for years to come, but only one so far that is willing to be called a bloc. It has nothing to conceal and does business in the open. The farm bloc is out to put the country's prosperity-maker on its feet. That interest is as broad as the United States. But it is general, not special and private. The farmer is not asking that anybody be impoverished. He is a firm believer in prosperity, but he wants it passed 'round and he wants everybody to have a generous helping.

Arthur Capper.

WASHINGTON, D. C.

Comments from the State Capital

By Our Lansing Correspondent

PREDICTIONS that the Warner two-cent gas tax would pass the house with a substantial majority were more than justified when the bill came up for final passage by that body. Only five other members joined the Wayne representatives in opposing the bill.

Debate chiefly centered around an amendment offered by Representative Edward G. Read, of Kalamazoo county, to decrease the tax rate to one cent per gallon. Representative Chas. Evans, of Genesee, chairman of the general taxation committee of the house, led in opposing the amendment. He declared that the cost of collecting a one-cent tax would be as much as that of a two-cent tax, while the return would be but half as much. The amendment was defeated seventy-seven to twenty-one.

Revenue from the gas tax would be used largely to pay the principal and interest on the state highway bonds and to start a "pay as you go" policy of highway financing. That the members were agreed as to the justness and desirability of the gas tax was shown by the final vote of eighty to eighteen for the bill. It remains to be seen how the senate will feel about it.

Capital Punishment Killed.

Representative Pitkin, father of the capital punishment bill, was outwitted and outvoted in the house Wednesday. His bill had been on the table for a week while he was preparing a referendum and other amendments by which he hoped to secure enough votes to pass it.

Feeling confident of its passage, he therefore moved to take his bill from the table. The house agreed. Then before anybody had time to say anything Representative Charles Culver, of Detroit, leader of the opposition to the death penalty, moved that further consideration of the bill be postponed

indefinitely. This motion is not debatable and demands immediate consideration. The roll was called and the representatives voted fifty-five to forty-two to put the bill finally to sleep. Everybody was glad to have it off their minds.

Farm Statistics Law Repealed.

A bill to repeal the law passed in

1921 to require supervisors to collect certain crop acreage and live stock census figures when they made the spring assessment of property stirred up an awful fight in the house. It caused more log-rolling and vote swamping probably than did the capital punishment bill.

Although the advantages of the figures were pointed out in detail and in

News of the Week

Wednesday, March 14.

FRANCE plans to evacuate the Ruhr valley in ratio with the payment Germany makes.—The allied governments have proposed that the United States reimburse itself for the cost of the army of occupation out of future reparations payments Germany may make. America will refuse this offer.

Thursday, March 15.

DURING the storm of the past week, forty-four were killed and millions of dollars worth of property damage.—Miss Evelyn Lyons, the girl who is reported to have had a 114 degree fever, fooled the doctors by using a hot water bottle to increase the temperature of the thermometer.

Friday, March 16.

TWO-CENT gasoline tax passes the state house of representatives.—A historic mummified body of an Indian was found at the base of some cliffs on the Cowskin river near Noel, Mo.—A Rochester, New York, father willed his son five dollars with which to buy a rope to hang himself with.

Saturday, March 17.

THE state administrative board has authorized the commissioner of agriculture, L. Whitney Watkins, to complete the state farm survey.—The officials of the United States health

service have isolated the germ of sleeping sickness.—The Irish Free-state authorities used further drastic measures to establish peace by executing seven more rebels.

Sunday, March 18.

THE courthouse in Flint was destroyed by fire. The fire is thought to be of incendiary origin.—In answer to scores of pleas, the governor of Georgia rendered a reprieve until April 13 for fifteen-year-old Ralph Baker and his nineteen-year-old brother George, who were condemned to hang.

Monday, March 19.

THE traffic on railroads exceeds the records of previous years.—Nicola Sacco, the convicted murderer, is starting his fifth week of hunger strike in order to beat the gallows.

Tuesday, March 20.

PRESIDENT HARDING sends in his income tax statement. It is the first full-year return ever made by a United States president.—Ezra Levin, who has been in charge of the Bureau of Agricultural Development of the State Department of Agriculture, has resigned to go into a private enterprise.—Attorney-general Harry M. Daugherty issued the statement that President Harding will run for re-election in 1924.

a most convincing manner, the repeal bill carried fifty-four to thirty-nine.

Undipped "Feeders" Allowed.

The house passed eighty-five to six Representative Edward G. Read's bill to exempt feeder sheep and lambs brought into the state between August 31 and May 1 from the provisions of the state law requiring dipping.

Representative Read is one of Michigan's largest sheep feeders and in this proposal was supported by nearly all the sheep men of the state. He declared that it cost \$30 per carload to dip lambs at Chicago, was unnecessary, and often resulted in a high death rate from pneumonia.

"Full Crew" Bill Opposed.

At a public hearing held Wednesday evening, considerable opposition was voiced by railway men and the farm bureau to the so-called "full crew" bill which would require an extra flagman on certain trains.

General Manager Frank H. Alfred, of the Pere Marquette, declared that passage of this bill would cost the railroads of Michigan \$1,500,000 additional expense. Mr. E. L. Ewing, traffic manager of the State Farm Bureau, made a strong plea against the bill in the interests of the farmers who pay a large proportion of the freight in the state.

The legislature adjourned Thursday to go on a junket to the University of Michigan. Everything, even to the special train, was provided free of cost by the alumni of that institution. While at Ann Arbor, every effort was made to impress them with the financial needs of the institution.

Will anyone volunteer to finance a tour of our law-makers through some typical agricultural sections of the state to acquaint them forcibly with the conditions of the farmer taxpayer?

Controlling Production

Other Industries Do, Why Not Agriculture?

NO good business man will deny the fact that the farmer has the same right to control production to prevent loss from over-production as the manufacturer. The consuming world has no reason to assume that the farmer is duty bound to produce food at a loss, even though it is the farmer's duty to feed the world. Admitting that it is the farmer's duty to furnish sufficient food if within his power to do so, nevertheless, cannot reasonably be expected for him to do so at a loss to himself.

The farmer probably has no more conscientious scruples about this matter than the manufacturer. The manufacturers like labor sufficiently organized so they can control production

let the farmers cut down their acreage ten per cent or twenty per cent if necessary, until the surplus is reduced to the danger point. Then produce more.

The question arises, what will the farmer do with the acres that formerly grew wheat? He might better let them remain idle for a season or so than to produce wheat that would lose him money. But in states like Michigan, these acres could be turned to the production of sugar beets, beans, soybeans, etc., for a time until markets adjusted themselves.

Of course, sugar beets could not be held if there was an over-production, but the sugar could be, and is now, many times. The farmers could take their pay in sugar and store it instead



Production of Perishable Fruits is Hard to Control. Often Labor Shortage Interferes with the Full Marketing of the Products.

with little effort. No one can blame them for doing this. It is simply a matter of sound business and common sense. Why doesn't the farmer do the same thing? The great reason is because he is not properly organized. But again, it is more difficult to control agricultural production than manufacturing products. Really the farmer hasn't control over production. Agricultural production is one big gamble. No one can foresee what the crops of the coming season will be. If natural conditions are quite favorable, the crops will be good. But if the natural conditions are bad, crops will be poor and there even may be a failure.

Good statisticians today tell us that the world is consuming as much wheat, or a little more, than is being produced. The reason why wheat does not sell for cost of production plus a profit is not from over-production, but because the people of Europe haven't the money to buy. If there is a poor wheat crop this year, there will be no surplus. The farmer can find no justification for reducing wheat acreage when there is no surplus. The farmer can find no justification for reducing wheat acreage when there is no surplus. If he did, then with a poor season there would be a shortage and famine.

If the world actually had a big surplus of wheat, then the farmer would be justified in cutting down acreage, provided he could hold the surplus until the magnitude of the new crop was determined. The farmer, however, should hold the surplus and not the speculator. If the "United Grain Grower, Inc." was properly supported and ably managed, it could accomplish all that the farmer could desire. Let the farmers produce wheat all they wish and place it all in the hands of this organization to sell at a price that will cover cost of production plus a profit. If the world doesn't need all of it, hold the surplus until it is sufficient to care for a poor crop and then

of the speculators. A farmers' organization for that purpose could borrow money to carry sugar for a long period, if necessary, just as well as the big sugar broker. And it would be only good business to do so to protect his market. A profitable market is the only basis of profitable agriculture.

Organized labor is handling its affairs in a way that we must all admire. They have learned from experience that they must work out their own salvation—no one will do it for them. The farmer is learning the same lesson. Labor has organized banks of their own. One labor bank in Cleveland, Ohio, has assets of over 15,000,000. Laboring men have concluded they will have something to say about their property—the day's labor—and they will finally be respected for it.

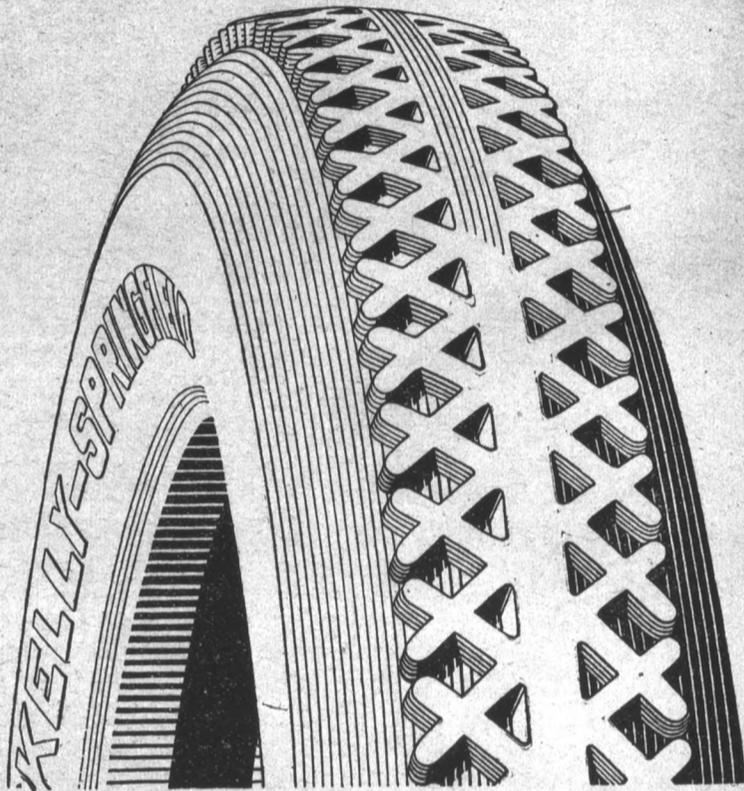
Farmers have the same privilege, or rather, duty. But they must do it themselves. Nobody will do it for them. Why should they?

The day is coming when the farm bureau will be sufficiently supported by the farmers of this country so they can accomplish everything the farmer is entitled to. The farmer wants only the profits of his own toil—these he should get, and these he will get eventually.

In all history, there never was a better, more comprehensive farmers' business organization than the farm bureau—township, county, state and nation. The machinery is all there for producing, controlling, marketing the agricultural products of this country for a price equal to cost plus. It must have the loyal support of the farmer. It must have unselfish service, it must have efficient management. It is doing well, it is gaining, it is worthy of our support and it is going to win.

Engine sputtering? Test the gas. Let a drop evaporate on the bottom of a white copy and see if any specks are left.

KELLY TIRES



OF all the hundreds of thousands of Kelly-Springfield tires that are rolling on the country's roads today, only a small fraction of 1% came with the cars you see them on.

That means that when the tires with which these cars were originally equipped had worn out, the owner wasn't satisfied with the service they had given him, and wanted something better.

Kelly tires come as original equipment on a very few makes of cars—and those the more expensive. When, therefore, you see Kellys, on a car, you know that its owner has bought them in preference to putting any money into tires of the make that were on it when he bought it.

That seems to us to be about the most convincing testimonial to the reputation of Kellys that could be offered.

Yet

It costs no more to buy a Kelly

How Many Children Have You?



NO matter how many you may have, they'll all enjoy this *En-ar-co Auto Game*. It's **FREE**. There's nothing like it. Nothing so interesting, fascinating, exciting—so full of good, innocent fun.

First the car you enter in the race is ahead—now you may have to go back for *En-ar-co Motor oil*—again, your opponent may be held up at a railroad crossing while you go speeding on your way—up hill and down, through town and village. You are winning, you think! But wait. You've run out of *White Rose Gasoline* and must stop for more. And so it goes. Every minute a thrill until the last car is over the finishing line. By all means send for this

FREE—En-ar-co Auto Game

Boys and girls, if your father owns an automobile, truck, tractor, or gas engine and you will have him fill out and sign the coupon below we will send you *En-ar-co Auto Game* absolutely **FREE**. You want it and should have it. Grown-ups, you should send for this interesting game for your children; you will enjoy it too. Send in the coupon today. Get the game **Free**, and learn about

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The Oil of a Million Tests

En-ar-co Motor Oil is produced by the most highly scientific process known. That is why its use means scientific lubrication for your motor. *En-ar-co Motor Oil* guarantees not only uniformity, but the quality to withstand the greatest heat any motor will develop, retaining at all times its friction-preventing, cushioning properties.

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My name is.....St. or R. F. D. No.....
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I own a.....(Auto or Tractor).....My Oil Dealer.....
located at.....cannot supply me. Quote prices on, or ship at once,
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.....gallons *En-ar-co Motor Oil*.lbs. *En-ar-co Gear Compound*.

OUR SERVICE DEPARTMENT

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

REMEDY OF SELLER FOR PRICE.

A man bought a turkey from me after Thanksgiving, but has never paid for same. Can I go and get the turkey?—E. S.

If the sale is absolute and possession delivered to the buyer, the seller cannot, as a general rule, retake the goods for non-payment of the price, in the absence of fraud of the buyer. But if the sale is for cash and the buyer takes the goods without paying for them, the seller may retake them. Also, on judgment for the price the buyer cannot claim exemption of the thing from execution.—Rood.

DIVERSION OF WATER.

A. and B. own adjoining farms. On A's land there is a spring of water, comes up out of the ground about five rods from the line. Water runs down through a valley to the county drain on B's land. A. can tile water across knoll thirty rods west of division line and water will come into county drain on B's land again. Is there any cause for damages as long as B. gets the water?—F. S. G.

Concerning the diversion of the water flowing from a spring on the land owned by A. to the land of B., it is the opinion of the writer that B. could not maintain an action for damages against A. for such diversion of water unless he had gained a right by prescription over a period of fifteen years, in which event A. would not have a right to divert the water without the consent of B.—Partlow.

UNDESIRABLE ALIEN.

My wife went to the city a year ago and has not returned. She likes city life better than farm life and wants a divorce. She only came to this country from Europe two years ago. Could she be deported to her native country and the marriage cancelled under the United States immigration laws as an undesirable alien. If so, what steps should I take?—Subscriber.

That a person is an undesirable citizen is no ground for cancellation of marriage.—Rood.

LICENSE TO SELL PRODUCE.

Would I have to get a license to sell eggs and other farm produce in a city? I intend to use my car and sell what I produce, and also buy from my neighbors if I find it pays. If I must have a license, where do I apply for it in the cities where I intend to sell, or at Lansing?—J. N.

The statutes authorize cities to issue licenses to sell produce about the streets. No license is needed unless required by local ordinance. Apply to city clerk.—Rood.

SOME FERTILIZER INFORMATION.

Can you please tell me the per cent of fertilizer to make? I intend to buy my ammonia, phosphate and potash separate. What would be the best analysis for making the potash and ammonia as strong as possible for celery?—J. V. B.

Not enough facts are given to answer this question very satisfactorily. The amount of fertilizer to be used per acre and the percentage of the different fertilizer ingredients are not given, and to answer these must be assumed.

Suppose a 5-8-10 fertilizer is to be used, that is, one containing five per cent nitrogen, eight per cent phosphoric acid and ten per cent potash. Again, suppose 500 pounds of this fertilizer is to be used per acre. This would make twenty-five pounds of nitrogen

if he used nitrate of soda, which contains fifteen per cent nitrogen; forty pounds of acid phosphate if he used sixteen per cent goods, and fifty pounds of potash if he used mureate, which contains fifty per cent potash.

Since nitrate of soda is fifteen per cent nitrogen, and we want twenty-five pounds per acre, the twenty-five fifteenths of 100 equals 166 pounds of nitrate of soda in the same way forty-sixteenths of 100 equals 250 pounds of sixteen per cent acid phosphate, and fifty-fiftieths of 100 equals 100 pounds of nitrate of potash per acre.

If sufficient is wanted for five acres, then five times the amount of nitrate of soda for one acre, 166 times five equals 830 pounds for five acres, and five times 250 equals 1,250 pounds of sixteen per cent acid phosphate, and five times 100 equals 500 pounds of nitrate of potash. These different amounts can be applied separately by hand on celery or they can all be mixed together; 830 and 1,250 and 500 will equal 2,580 pounds for five acres, or 516 pounds per acre.

FARM RENTAL QUESTIONS.

I have two farms to rent. One is rented as follows. A. rents his farm to B. A. furnishes team and all the tools, cows, brood sows and hens and all the seed. B. does all the work and receives one-third of all the hay and grain and one-third of the cream and calves, and one-third of the pigs when fattened. Should B. furnish one-third of the feed for the cows, pigs and hens? The other is rented on the following basis: A. rents his farm to B. B. furnishes team and all the tools and cows and all the seed, and performs all the labor, and A. received one-third of all the hay and grain and one-third of the cream and calves. Should A. furnish one-third of the feed for the cows?—C. G. I.

Feed fed to productive live stock is only an indirect method of marketing it. This practice is more satisfactory than attempting to divide the feed.

Such expense as feed and seeds purchased, threshing bill, etc., should be divided in the same proportion as income—otherwise, the above leases would not be well balanced. Much depends on how much is invested in personal property. If this is very small in comparison with the real estate there is a possibility that the extra one-third income would not be balanced by the extra investment, plus the one-third increase in such expenses as feed, threshing bill, seed, etc.—F. T. Riddell.

AUCTION SALES.

I bought some things at public auction with the understanding that I was to give my note. Took things home, expecting to have someone call to have note made. No one called. Can they take anything away if I should refuse to give note? It is sixty days since sale. My boy sixteen years old left home and worked for same party. My wife asked them what he was getting and they said he was getting \$25 per month. Later I asked what they were paying and they said his board. I want them to pay what they agreed. Could I have his work go for paying for the goods I bought of them?—F. C.

Misunderstanding of the terms of the sale prevented the meeting of minds necessary to a contract, wherefore the seller may retake the goods. The right of the father to recover the wages of the child depend on emancipation, which may be express or implied. The father can recover the reasonable value of the wages, notwithstanding the contract of the child to work for less.—Rood.

The Handy Man's Corner

Getting Ready for 1923

HERE are additional letters from farmers who have gone to the trouble of telling us how they take advantage of the early spring days to give them a boost when the rush of field work comes. They are wise. A more general adoption of the idea of digging up work for cold, or inclement days would prove good business to a good many farmers. It is not too late to put many of these ideas into practice:

IMPORTANT TO WORK IN WINTER.

WHEN I go through the country and see manure piles nearly as large as the barns, it causes me to wonder how much time will be required at the beginning of the field work to get that manure out. The waste in fertilizing elements is also large. We draw out manure every winter day in which we can get on the fields.

We also go along the fences and wherever we think a new post is needed drop one, to have it there when the ground is ready to put it in. Cloverseed is sown in late winter or early spring. Tools are repaired; wood cut, split and piled.—W. B. Jones, Livingston County.

SORTS SEED POTATOES.

ONE of the jobs that can be done to advantage at this time is the sorting of seed potatoes, especially where the seconds are to be used for feeding.

Doing the work at this time permits us to exercise more care than would be possible at planting time. Besides, we have the culls for the cattle at a time when they are more needed than in May or June.

This is how I do the job: I spread out a bushel or more upon the barn floor where there is a good light. This enables me to pick the good ones. I know the amount of my supplies and the seed needed, and sort accordingly. This year I am picking a bushel of seed out of three bushels of seconds.—A Paulsen, Mecosta County.

GET HORSES IN SHAPE.

ONE of the things the farmer should not overlook in these early spring days is to get the horses in shape for spring work. They should be put in the harness and worked at least a short time each day. This will toughen the muscles under the collar and save time and torture to the horses later on when the first long and trying days in the field begin. The feed should also be increased a little so that the right amount should be fed when the real work begins.

I also see to it that we have plenty of eveners, whiffletrees, and tongues. Then if one is broken we are not held up long, and, further, we have plenty about, to obviate the necessity of carrying a set of whiffletrees wherever the team may be needed.—Reader, Lakeview.

INVENTORIES HIS STOCK.

DURING my spare time I inventory my stock and tools, clean up the shop, short bolts, washers and nuts, discarding all that are of no value. After this is completed, I make repairs of wagons, racks, and platforms, and other farm tools. What work I cannot do myself I take to the blacksmith.

This is a good time to have the harness put in shape as to repairs and oiling. The gas engines need valves reground, carbon removed and bearings tightened.

I order repairs for all broken machinery, and the seeds required, and then figure the amount I can spend in repairing buildings and fences. I also plan to have a big supply of wood split and in the woodshed. With these things out of the way, I am usually ready for the field work when weather makes the land fit.—W. H. Edgar, Oakland County.

Maples or oaks generally indicate well-drained land.

Drilled oats outyield oats broadcasted.

Eureka Potato Machines

Make Money for Potato Growers

Eureka Potato Machines take hard work out of potato growing. They reduce time and labor costs. They assure bigger yields.

Potato Cutter

Cuts uniform seed. Operates with both hands free for feeding.

Potato Planter

One man machines doing five operations in one. Over twenty-two years' success.

Traction Sprayer

Insures the crop. Sizes 4 or 6 rows. 60 to 100 gallon tanks. Many styles of booms.



POTATO CUTTER

Riding Mulcher

Breaks crusts, mulches soil, and kills weeds when potato crop is young and tender. 8, 10 and 12 ft. sizes. Many other uses, with or without seeding attachment.

Potato Digger

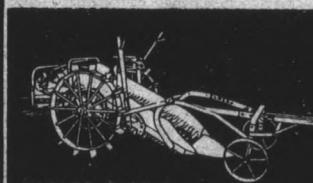
Famous for getting all the potatoes, separating and standing hard use. With or without engine attachment or tractor attachment.



POTATO PLANTER

All machines in stock near you. Send for complete catalogue

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POTATO DIGGER

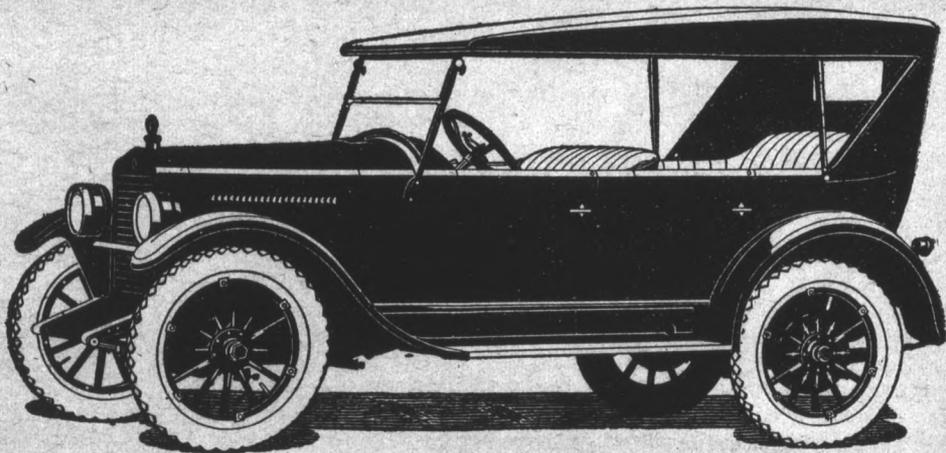


TRACTION SPRAYER



RIDING MULCHER

ESSEX



Hidden Values

They Keep Essex Young

From the first Essex wins the admiration of owners.

But the greatest Essex enthusiasts are those who have driven their cars 50,000 miles or more. They have discovered the hidden values.

Design and construction details not observable in the new car assert their importance as use increases. They keep the car young.

Essex values extend to the minute details. The finest bearings made are used throughout. They are to an automobile what jewels are to a watch. Parts that wear are inexpensively replaced.

In chassis and body, Essex throughout possesses qualities essential to long hard service. That means economical service, always.

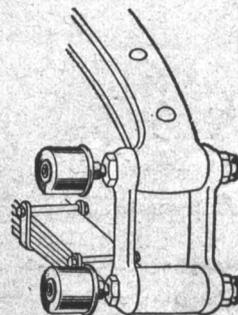
ESSEX MOTORS—DETROIT, MICH.

Touring

\$1045

Cabriolet \$1145

Freight and Tax Extra

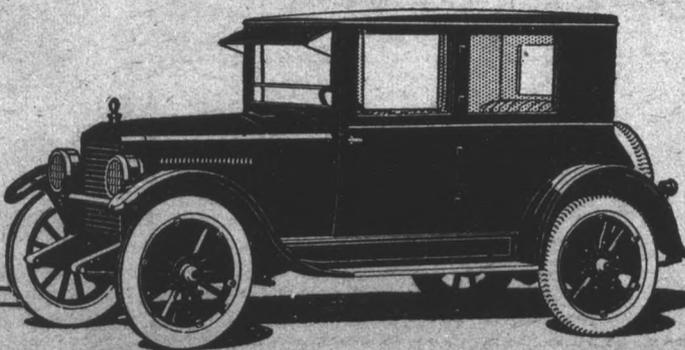


Chassis oil cups are lubricated with an oil-can—clean, simple, effective. Large size, require infrequent attention. Patented and exclusive to Hudson-Essex. Also compare shackle adjustment with average type, which require insertion of metal washers or shims. Only costly cars share this Essex feature.

The Coach

\$1145

Freight and Tax Extra



Closed Car Comforts at Open Car Cost

See the local ALPHA Dealer



About cement storage cellars

The ALPHA dealer has the ALPHA Service-Sheet suggestions for storage cellars and rooms of various kinds, all of cement construction, so that they will last and will keep your produce at an even, cool temperature.

The practical, 104-page Handbook that he will give you, "ALPHA CEMENT—How to Use It," tells about scores of other permanent cement improvements for home, yard and farm.

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Martins Creek, Pa. Cementon, N. Y.
Jamesville, N. Y. Manheim, W. Va.



use Alpha Cement

The Primary School Fund

New Conditions in this Jealously Guarded Fund Advisable

MONDAY, March 19, Representative Thomas D. Meggison, the speaker pro tem of the house of representatives, presented a bill which, if enacted into law, promises to be a most important piece of school legislation.

The bill provides for an amendment to the present statute relative to the apportionment of the primary school interest fund so as to apportion the same to the several school districts in the state, directly in proportion to the number of children living in each between the ages of five and twenty years, directly in proportion to the number of such children who are in average daily membership in public schools within the state, and inversely in proportion to the valuation of each school district expressed in terms of the basis as determined by the state board of equalization.

History of Primary School Fund.

The primary school fund is of such long standing in Michigan that it is now considered as almost sacred and is jealously guarded by the great majority of friends of education.

The germ of the fund dates back to 1804 when Michigan was still a part of the Indiana territory and the present method of apportioning the fund dates back to 1834 when Michigan was still a territory and the fund amounted to only about thirty-five cents per school capita. At that time Michigan was quite homogeneous—it was largely in the pioneer stage and there were no large industrial centers.

Since 1834 great changes have taken place. On the one hand we have some of the wealthiest industrial centers in the world, and on the other we have large sections which are still in the pioneer stage. Due to these marked changes, the present method of apportioning the fund no longer accomplishes the purpose for which it was created, namely, to guarantee to every boy and girl in the state an equal opportunity for a substantial primary school education.

Certainly the children in the poorer school districts of the state have an equal right to at least a substantial primary school education as do those children who happen to be living in wealthier school districts. It is not only just, but it is greatly to the interest of the state as a whole that such an opportunity be provided.

Injustice of Present System.

There are few people who fully realize the great inequity of the present method of apportioning the primary school interest fund.

There are at present, school districts within the state which have less than twenty per cent of their school census enrolled in public schools receiving as much assistance per school census capital as those which have ninety per cent of their school census enrolled in public schools.

There are districts so wealthy that they are able to provide the best of school facilities with school tax levies of less than one dollar per thousand of assessed valuation, while there are many others having so little assessable property that, in order to provide school facilities of even a mediocre standard, must levy for school purposes alone tax levies ranging from

\$25 to \$5 per thousand of assessed valuation per year. Obviously, it is an impossibility for school districts in the latter class to provide anywhere near as good school facilities as do those in the former class. Yet, under the present system of apportioning the primary school interest fund, a fund created for the purpose of equalizing opportunity for a substantial primary school education, there exists the mockery of gratuitously giving as much assistance to the one as to the other.

Striking Examples Pointed Out.

In one school district last year, \$4,500 was raised by taxation with which to provide facilities for ninety-three children, only sixty-three of which were ever enrolled in school. Inasmuch as the district had an assessed valuation of over \$41,000,000 this amount was raised by a tax levy of only eleven cents per thousand. This district received last year \$1,088.10 primary school interest money to assist in providing school facilities for its children.

In other sections of the state there are school districts having valuations as low as \$17,000, \$29,000, etc. In order to employ a teacher in these districts who is in any way qualified to teach, imagine what their school tax must be. These districts receive no more assistance from the primary school interest fund than do wealthy districts.

Proposed Plan Sound and Effective.

The new plan for apportioning the primary school interest fund is indeed one of remarkable ingenuity. It has been thoroughly tested by the state department of public instruction and by some of the most eminent mathematicians of the state.

On February 17, it was explained before a representative body of school men and members of boards of education called to Lansing by Thomas E. Johnson, superintendent of public instruction, at which time it was given their unanimous endorsement.

The new plan of apportionment being based upon school census, membership and district valuation, will not put a premium upon extravagance nor a penalty on economy. Any plan of equalization based upon school costs would do so.

The proposed plan will apportion the primary school interest fund to districts where needed, and in proportion to the need; it will put a premium upon membership in public schools, and will raise the educational standard of the entire state.

Farm Organizations Back Bill.

Some days ago, Mr. G. N. Otwell, of the department of public instruction, and Mr. O. T. Bantzen, author of the plan, explained the same in detail before the federated legislative committees of the Michigan farm organizations representing the State Farm Bureau, the State Grange, the Gleaners and the Affiliated Farmers' Clubs.

Members of the committees were greatly impressed with the element of fairness in the plan and give it their unanimous endorsement. Pamphlets giving a brief explanation of the plan can be secured from the office of Mr. Thomas E. Johnson, state superintendent of public instruction.

Broken False Teeth Repaired
Made as Good as New!

These are our prices: Cracked Plates (one crack) repaired for \$1.50; with one tooth off, \$2.00; with 2 teeth off, \$3.00; with 3 teeth off, \$4.00; more than three teeth, add \$1.00 more for each tooth off. Money must accompany all orders. Any questions gladly answered. Write for free box to mail plates in.

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New! The Blizzard Paddle Roll Self-Feed. Write for circular describing it.

Better Blizzards for Less Money
New models have self-feeding, feed regulating features. Blizzards do most work per h. p.—they fill world's highest silos—they are running after 20 years of work—they run very low for upkeep; all parts of wear being replaceable.

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DICK'S Blizzard Ensilage Cutter

WRITE for circular describing the new Blizzard improvements. Also describes Dick's "Famous" Feed Cutters. Leaders for 49 years. For power or hand operation.

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Krag Sporting Rifles, \$14.00.
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NEW METHOD OF BARBERRY ERADICATION.

CHEMICAL methods of killing the common barberry bush have been so successful that each car used in the government survey of Michigan this summer will carry at least two gallons of sodium arsenite. This announcement was made by Walter F. Reddy, state leader of the federal barberry eradication forces who is now making his plans for carrying the war on the barberry into its sixth season.

A recent inspection of bushes treated with chemicals last fall reveals that the plants have been killed, root and branch. Ten pounds of rock salt, poured about the base of each bush, accounted for the destruction of some of them. Others were poisoned with a solution of sodium arsenite. Neither of these chemicals will permanently damage the soil, nor are they harmful to stock and chickens.

Experiments with chemical methods of eradicating barberries first were conducted by Dr. W. W. Robbins,



Brody in the Grimm Alfalfa Regions.

of the Michigan College of Agriculture who treated a number of bushes in 1921. Last year the work was continued in this and other states under the direction of Noel F. Thompson, of the United States Department of Agriculture.

Mr. Thompson unhesitatingly recommends rock salt because of its general availability and cheapness. Bushes can be killed at a cost of from six to nine cents each. Mr. Reddy favors the sodium arsenite treatment when used by the barberry scouts. Last season 3,500 bushels were treated with salt and sodium arsenite in experiments conducted on thirteen farms in eight different areas in four states. The average cost, including labor and materials, was twelve and one-half cents per bush.

Mr. Reddy estimates that it cost nine cents per bush for the labor required to pull a hedge of some 1,800 barberries on the Baker farm north of Saugatuck in Allegan county last summer. These bushes were in sandy soil and teams were used to jerk them out so that the expense was less than the usual cost of removing bushes in wild areas. Accordingly, it is probable that chemical treatment is the cheapest way of getting rid of extensive wild plantings. At any rate, it is by far the most effective method as it eliminates the possibility of having the work to do over again as a result of sprouts springing up from parts of the roots that may be left in the ground after digging.—H. F.

NATIONAL POTATO AGENCY PLANNED.

THE marketing department of the American Farm Bureau Federation is working on a plan for the co-ordination of cooperative potato associations in Maine, Michigan, Wisconsin, Minnesota, the Dakotas, Iowa, Montana, Colorado and New York.

The purpose of such a plan is to make more efficient the distribution and sale of potatoes. Practically all of the states mentioned above have potato exchanges, the oldest of which is in Michigan.



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When strong winds blow—

Protection for yourself, your stock, your machinery, your produce depends chiefly upon a roof.

The chief duty of a roof is protection for you—not partial protection, but the complete that is to be found in MULE-HIDE with its reputation of

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Mule-Hide means complete protection.

In manufacturing MULE-HIDE Slate Kote Roll Roofing all rag felt base very slowly passes through and is saturated with a dense, high-grade, refined Mexican asphalt. The top surface is covered with an extra thickness of the same high-grade asphalt in which a protecting coat of richly colored slate (red, green or blue-black) is deeply and firmly imbedded. This makes a solid unit built for endurance and lasting beauty.

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Planter Profits

AFTER you have spent weeks behind the plow, the disk, and the harrow—after your fields have been worked down to a perfect seed bed—then comes the time to make planter profits. Big yields are largely the result of perfect planting—every hill in its place and every hill a full hill. Year after year the profits of good planting follow

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They plant accurately and evenly whether set for checking, drilling or power drop. Without stopping the team the variable clutch can be set to plant 2, 3, or 4 kernels to the hill. Edge, flat, and full hill plates interchange in the same hopper. The automatic markers require no attention. Valve mechanism is so carefully fitted and so accurately timed that missing and stringing are entirely eliminated.

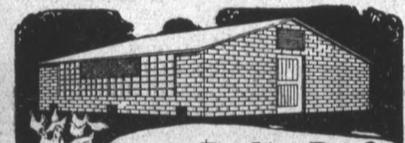
The tongue adjustment for leveling the boots insures an even cross check. Fertilizer attachments always available.

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The ONLY unbreakable bowls; made of HEAVILY GALVANIZED, RUST-PROOF pressed steel, only half the weight of cast iron bowls. You can nest and carry out to clean a dozen Hudson bowls at once. Patented, no other has these many advantages. SECURELY ATTACHED, cows cannot knock them off.

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Opinions & Comments

From Michigan Farmer Readers

TOO STRONG ON ALFALFA.

I CANNOT see why folks are going crazy over alfalfa. Certainly alfalfa makes good hay. But these enthusiasts are going to kill it. They would grow so much that it will be worthless to the man who produces it.

My opinion may not be worth much, but here it is, nevertheless. It is the balanced farm that makes good in the long run. Why, then, should not the men who go out to teach farmers, lay emphasis on balanced farming? It seems that we should get enthusiastic over the whole job, not a part of it. When one thing is over-emphasized and another is unnoticed we get the wrong slant on our business. Let us occasionally, at least, have a squint at the whole program.—Arthur Burner.

ABOUT WOOL PRICES.

AT one of the feeding stations out from Chicago fifty cents per pound was paid for one-half-blood wool in the grease. This wool is, as a rule, of heavier shrink and less tensile strength than Michigan wool. Western growers are pegging wool at fifty cents and give scant hearing to any bantering for a less price.

There is a world's shortage of wool and the southern hemisphere stocks have been well absorbed. Mid-western wools are quoted at Chicago as follows: One-half-blood staple, 52@54c; one-half-blood clotting, 49@50c, with delaines and three-eighths grades about on a parity at 53c.

The wool grower can roughly estimate his grades by remembering that fine grades come from Merinos, Rambouillets and the one-half-blood from the first crosses with the middle wool sheep. Three-eighths and one-quarter bloods come mainly from Shropshires and Hampshires. The low quarter-bloods are from Oxfords and Lincolns. Braids are largely from Cotswolds.

The western bankers are advising against contracting wool until ready to sell. From every statistical standpoint, the Michigan wool grower should not sell under fifty cents for the average clip of wool. Also the grower can "stand pat" on a good deal of so-called rejections or discount wool. A large percentage of chaffy fleeces are "tabled" at the mills and a few ounces of this wool cut out, and the fleece goes straight.

Most of the burrs in Michigan wool are called hard burrs and come out by going through the burr-picking machinery, at a mere nominal cost. What is called "piece carbonizing" of the cloth after weaving, is done in many mills as an improvement to the fabric and this removes the last trace of foreign matter.

Many a dollar has been made by wool dealers berating the farmer's carelessness in having chaffy and burry wool. Modern machinery and chemistry has provided the means of remedying these conditions at a very small cost. When wool is needed badly, small defects are at a minimum. Eight to ten cents per pound is sufficient penalizing for discount wool. There are always a certain number of platitudes repeated by public advisers which are universally true, but the conditions of one hundred per cent fulfillment are not easy. Burry, seedy and chaffy wool prevention is platitude No. 1 to the wool grower, and heavy penalties by the buyer are imposed.

A callow Gentile working for a wily Hebrew recently advised of a drop in

the wool market of seven cents, which was explanatory to his low offer on wool, all of which was not true. Wool prices at Chicago on March 13 remained steady to firm, with the volume of trading limited through the shortage of stocks.

THE PRIMARY SCHOOL FUND.

THE primary school fund which is as old as the state has existed for all these years, and its method of distribution, established by the state constitution has never been questioned. It represents the participation of the state in the education of its boys and girls, a matter which vitally concerns the state and to which the state should give more attention.

Distributed as it is on a per capita basis, it turns back to the poorer districts a larger proportion of their cost of education than in the wealthier sections, and for this reason has been attacked by the cities, and a proposition proposed whereby the total fund be turned into the state general fund and the districts left to finance their own schools. This represents the extreme view on one side, that of wealth.

On the other hand, representatives from sections of the state having less wealth argue that the fund is a state subsidy for the equalization of educational opportunity and should be distributed on the basis of the ability of the district to pay and a proposition is being submitted to the legislature for a change in the method of distribution based on a three-point plan. This project would take into consideration the number of children of school age (five to nineteen both inclusive), the number attending school and the property valuation of the district per capita of attendance.

Now, making both census and attendance factors in the distribution of the fund would operate to the advantage of graded school districts, maintaining high schools, such districts always having a larger proportion of their census enrollment in school but the real factor in this proposed plan is the matter of valuation. The average valuation in the state is around \$5,000 per capita of attendance and where the local valuation is around this figure there would be practically no change in amount received under new plan; but valuations differ by a wide margin, running as high as \$65,625 in the case at Grosse Pointe and as low as \$833 at Elberta, and under this proposed plan Elberta would receive eighty times as much primary per capita as Grosse Pointe. The friends of the measure claim that this is just as it should be, for Grosse Pointe is now operating a splendid school system on a three and a half mill tax, while it costs Elberta fifty and six-tenths mills to offer a course much less pretentious. These, of course, are extreme cases.

Generally speaking, the proposed change would benefit any district where the valuation based upon school attendance is less than \$5,000 per capita and this would include most agricultural districts and small graded districts. Cities, of course, would be the losers by the new plan, the loss to Wayne county based on figures for last year would be \$1,700,000 and every city in the state having a valuation in excess of \$5,000 per capita in school attendance suffering a loss.

The measure should precipitate quite a fight, for on strictly selfish motives the division in both houses would be close.—E. V. Root.

ABOUT LUMBER PRICES.

I saw an article in your paper about lumber prices being sky high. Now, I wish you would explain to me why if lumber is so high, that no one will buy good dry hardwood, mostly two-inch, at a common price. I have written to at least thirty factories and offered a good grade, better than log run, for \$46 f. o. b. cars. What is the reason?—R. F. S.

THE inquiry from Mr. R. F. Irish suggests a most natural feeling that prevails among a great many owners of woodlands in Michigan today. Especially is this the question most apt to be asked by any woodlot owner after he has had a sale conference with most any of the operative timber buyers in this state. It is very true that too wide a gap exists between the prices offered or paid for the farmer's logs and the prices he is asked to pay for the manufactured material suitable for his new house or barn.

In the first place, the farmer who has five or ten thousand feet of mature, ripe timber to sell is usually dependent upon a local mill and upon the buyer who is willing to be bothered with so small an amount.

The man having less foresight but a more pressing need for immediate cash may offer his entire woodlot to a buyer from one of the half dozen larger mills of the state and receive a "lump sum" bid which covers "taking her clean."

At the moment such a bid looks very large to a man who is without the experience necessary in such matters, and he as been known to "accept on the spot" and later boast a bit over his deal. In many such cases examined by the writer it has been found that the owner had sold for half, or less than half, of what a conservative estimate or cruise would have accurately placed the value. The saving of twenty-five to fifty per cent of the value of a woodlot by a careful cruise before sale is becoming a common occurrence.

Timber buyers are a shrewd class of men who do not propose to pay more for logs, timber, etc., than they are required. In this respect, they greatly resemble a great many good farmers. However, when these buyers know that the individual woodlot owner wishes to sell a few logs but does not have a carload, or does not know where to ship the logs if he has a quantity, they get in their best deals. He then operates to good advantage to himself while the farmer or seller asks the question stated in the inquiry above.

White oak has been selling this winter at \$19 per thousand feet in the log. Hard maple at \$18, and elm at \$15, and this is by Doyle Rule. Few mill owners have standing timber of the same quality but would scorn an offer for stumps.

The principle reason for this condition lies in the fact that the woodlot owner still refuses to recognize that timber is and should be considered as much of a balanced farm as hay or corn, and that the safe amount that may be removed at longer or shorter intervals is as much a crop as is the milk.

Cooperative marketing alone will be able to correct this evil of low prices for farm timber. The farmer is keen for buying a \$50 harness once in several years through his co-op, but he will sell \$500 worth of timber or logs for \$150, make the deal alone and often feel like a business man.

But the farmer must hurry if he expects to sell timber cooperatively.—F. H. Sanford.



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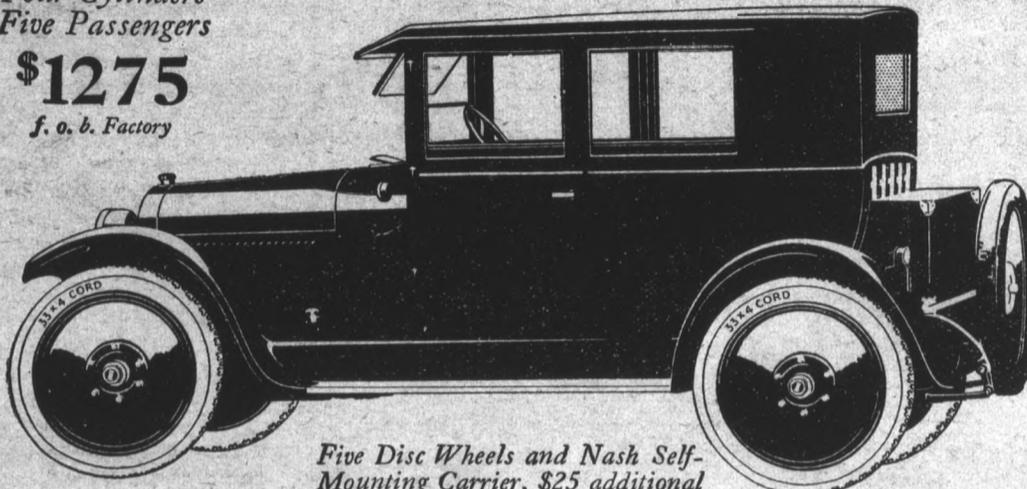
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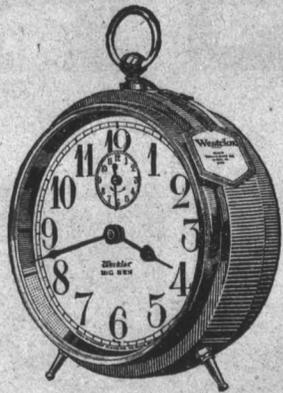
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IF you want the best steel fence line — the strongest, the most economical and longest lasting — put in a good foundation. Use RED TOP Steel End, Gate and Corner Posts, made of heavy, seamless tubing.

The foundation posts must take up any strain applied to the fence. They should be strong, rigid, immovable. Wood foundation posts are likely to rot out, lean and frost heave. When it comes time to replace them the wire will not stand restretching. Properly set, RED TOP Foundation Posts will not budge in the fence line. They'll outlast any fencing made.

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See the complete line of RED TOPS at your dealer's. Ask especially to see the new RED TOP One Man Line Post Driver and the Handy Fasteners, two great labor savers for fence builders. Circular describing the RED TOP line in detail sent on request.

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GUARANTEED

Double Strength Studded Tee Steel Fence Posts

ORCHARD AND GARDEN

SOME DO'S AND DON'T'S IN SETTING FRUIT TREES.

DON'T put manure in the holes when setting trees. Orchardists have given manure a thorough trial and condemn it. If you do use manure, place it on top of the ground around the tree, but be sure to scrape it away before fall. It makes fine mouse nests if you leave it near the tree.

Don't crowd the roots or curve them around the hole. It is far better to cut them off if they are too long.

Don't leave air spaces under the roots; air is fatal to the root growth. Don't allow the trees to lie in the sun while you are digging holes. Dip the roots in water or, better still, in a pail or tub filled with thick muddy water.

If you can possibly spare them, put a few potatoes under each tree around the roots. The rotting potatoes furnish moisture and some plant food. If they grow, let them, but do not attempt to dig the potatoes.

Don't forget to cut back the branches to a length of not over six inches. Cut off all side branches of the peach trees. Do the pruning after you are through setting. Lean the tree a little in the direction of prevailing winds.

Don't put sub-soil around the roots. Save the top soil and put it in the bottom around the roots.

Don't be afraid to put out some trees because it is getting late. You can set fruit trees any month of the summer or fall if you wet the roots and prune carefully. A neighbor of mine set out 500 apple trees in July and August and never lost a tree.

Don't set out dwarf trees in a commercial orchard. They are for the city lot or garden. Don't set out standard trees on the city lot. Dwarf trees take up but little room and bear young.

Don't buy trees just because they are cheap. A cheap tree is a mighty dear tree. Deal only with reputable nurseries.

Don't buy pictures, buy trees. The standard varieties need no fancy pictures.

Don't let the high price of nursery stock prevent you from setting out some trees. A year from now your money will be gone and you will not have the trees.

Don't let your age prevent you from setting out an orchard. You are never too old to set trees. Father set apple trees when he was past sixty and lived to eat many an apple from them.—L. Benj. Reber.

FOR MAGGOTS AND STRIPED BEETLE.

IGATHER all fine ashes and soot from cleaning out the stove and stovepipe. Care should be taken to keep it dry. Apply dry dust to vines when striped beetle appear, also to onions when maggots appear. For the big squash bugs, I add one tablespoon of Paris green to one gallon of soot. My dust can is a one-gallon syrup pail with solid bail and about twenty small holes in the bottom.—N. H. Crout.

PLANTING STRAWBERRIES.

SPRING is by far the best time to plant strawberries. Spring planting is preferred because weather conditions are more favorable and because the plants come into bearing the next season. Fall-set plants have to go through two winters before they start to fruit and the effect of winter is

never beneficial to the plantation.

Of all the methods used, the matted row system is by far the most practical and economical. By this method plants are set eighteen to thirty inches apart in rows which are three to four feet apart. Variations in the distance mentioned are necessary because of the habits of the plants. Some varieties are very good runner makers, while others lack in this respect.

SPRAY FOR APHIDS.

AS the days grow warmer and the buds begin to swell, the apple aphids hatch out and cluster on the buds where they begin feeding on the tender green tissues. At this time the insects are more susceptible to spray application than at any other, especially as later on the foliage offers the aphids some protection. An application of three-fourths of a pint of nicotine sulphate to every one hundred gallons of spray mixture will give satisfactory control, provided a very thorough application is made.

Practical experience in the control of these insects indicates that it is advisable to do all the spraying from the ground, rather than to stand on the rig while application is being made. By standing on the ground, one can thoroughly cover the lower branches and twigs, and in general do a better job than when the work is done from the top of the tank.

FERTILIZERS FOR GARDENS.

FERTILIZERS give great results in the garden. No garden is so rich that a careful use of the right fertilizers will not make better vegetables and more of them. I have seen gardens so rich in nitrogen that all kinds of plants made a rank growth, but many failed to produce good crops because of a lack of other soil elements. Wood ashes, ground phosphate rock, and ground bone are the common natural fertilizers for balancing where manure or green crops are used freely. Lime is not a fertilizer but is valuable to sweeten the soil and give the plants a chance to get the plant food in an available form.

Garden soils will be sure to get sour if kept manured for this tends to make them sour, and a soil to do its best should be more or less alkaline. Potash is not often needed, but phosphorus is commonly deficient, and bone-meal is one of the best fertilizers to use for phosphorus, as it is very rich in it, and also contains much lime and some nitrogen.

The best way to use bonemeal is to spread a narrow strip of it out a little from the row on each side and stir it into the soil. Barely cover the soil of these two or three-inch strips with a dusting of the bonemeal as a heavy application is not needed and more may be given later if it is thought best. It is perfectly safe and becomes available slowly, so lasts for a long time. One application is enough for quick-growing plants, but crops growing all summer will be benefited by a second. A light sprinkling of nitrate of soda when planting starts the plants off quickly as it is ready to use at once before much soil nitrogen becomes available.—Agnes Hilco.

To prune with an axe spends more in strength than it saves in money, and you can't get a good job done. Lop shears and a pruning saw are well worth buying.

GETTING A STAND OF ALFALFA.

ONE of the main things I find in getting a stand of alfalfa is, you must actually sow alfalfa seed and not red or some other kind of clover seed and expect alfalfa to grow by merely talking about it.

I meet men who see the advantage, talk about how nice an alfalfa crop is in a dry season, but continue to keep in the old rut and sow the common grasses. One thing we all must admit is that all soil is not ready for alfalfa seed on account of the acid condition, but I really believe that there is a small plot at least, on every farm where alfalfa would grow if sown.

When your soil is free from acid the next thing which is essential is the inoculation of the seed.

By the method I use I have never



Now is the time to get busy to finish the pruning. Raspberries, dewberries, grapes, etc., should all be given the once-over before growth starts.

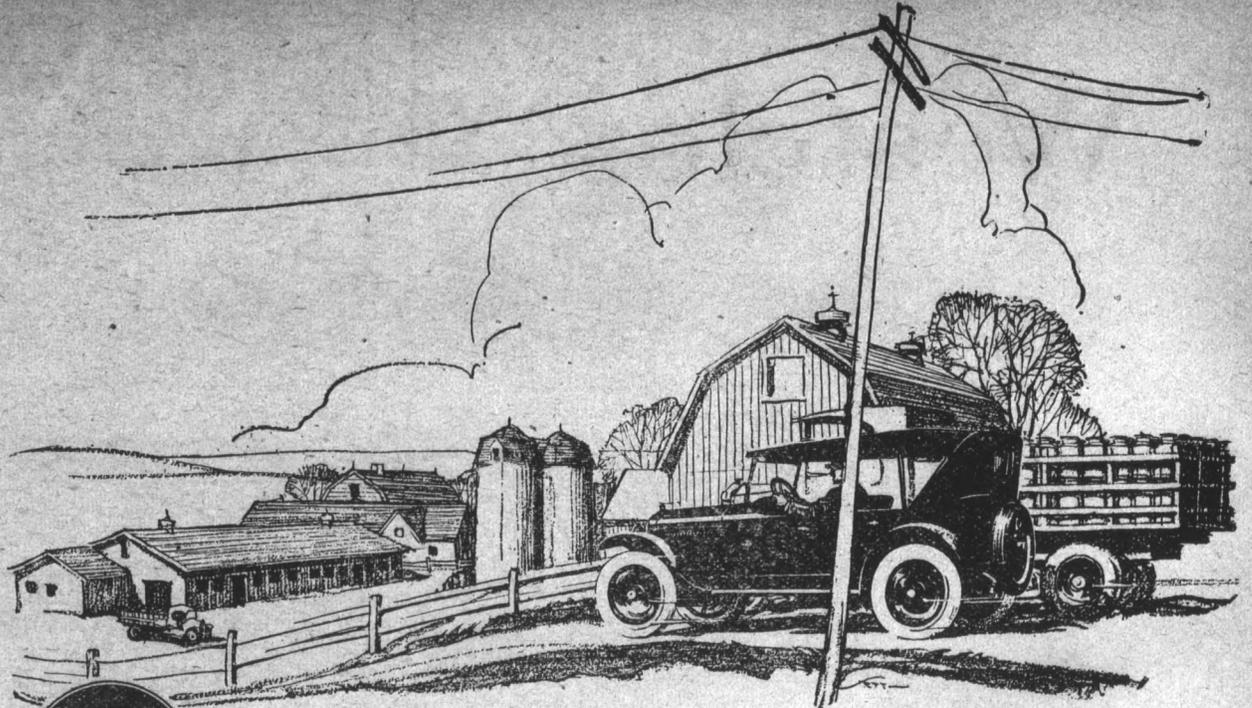
failed to get a catch. I take a piece of new ground and plow it as carefully as I can, and plant to potatoes, in the fall when the potatoes are dug I harrow the ground with a spring-tooth harrow to level the soil so it will form a solid seed bed, which I find is best for alfalfa, also sweet clover. As early as the soil can be worked I sow broadcast one bushel of Canada field peas to the acre as a nurse crop. I follow with the disc and harrow, both set shallow, so as to leave a solid seed-bed. When the surface is thoroughly mulched I sow alfalfa seed, following with the roller, then go over the ground with a spike-tooth harrow with the teeth slanting to rough up the surface so the soil will not blow.

When the peas are in full bloom I cut them for hay. This clipping will also check the weeds if any have started. I then watch the alfalfa the first season and as soon as I detect any plants turning yellow I set right in and clip again. It will then start up nice and green.—W. M. Schworm.

THE FARM CREDITS BILL.

CONFERENCES are now being held in Washington to devise means of putting into effect the new farm credits bill which recently passed congress. Commissioner Lobdell, head of the farm loan board, said he thought everything would be in shape to have the law effective within six months.

Reports that the authorities are receiving from agricultural sections indicate that farmers are pleased with this bill as it has added another element of competition in the loaning of money to farmers, and, therefore, will bring a general average lower rate of interest to farmers.



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Touring Car, \$1115; Roadster, \$1115; Special Touring Car, \$1215; Special Roadster, \$1215; New Two-passenger Coupe, \$1385; Four-passenger Coupe, \$1535; Sedan, \$1675. Cord tires on all models. Prices F. O. B. Detroit—Revenue Tax Extra

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HUDSON

Advertisement for Hudson Crop-Saving Sprayers. Includes an illustration of the sprayer and text: 'Do You Sprinkle or Spray? Beware the low pressure sprinker—good spraying demands high pressure. The extra capacity HUDSON pump and the sturdy tank riveted like a steam boiler, insure the highest working pressure of any compressed air type.'

Advertisement for Hudson Mfg. Co. 'The High Pressure Sprayer'. Includes an illustration of the sprayer and text: 'Equipped with a combination nozzle for light or heavy mixtures. Leak-proof shut-off. Can be furnished with an extension for spraying fruit trees. Free Book—"When, What and How to Spray." Write today for your copy, or ask your Home Town Hudson Dealer. HUDSON MFG. CO. Dept. 3131 Minneapolis, Minn. Get this free book'

Advertisement for 'Get Low Prices on Berry Boxes and Baskets'. Includes an illustration of a berry box and text: 'Write for our Free Catalog! Shows you how you can save money by buying direct from the largest Berry Box and Basket Factory in the Country. New Albany Box & Basket Co., Box #12 New Albany, Ind.'

Advertisement for 'Strawberry, Asparagus Plants'. Includes text: 'For Sale Senator Dunlap, Gibson and Dr. Burrell Strawberry Plants. No better plants at any price. 50c per 100; \$4.00 per 1,000. Parcel post prepaid. John J. Williams, Fremont, Mich. Strawberry, Asparagus Plants. No better plants grown than we have to offer you. 1000 Senator Dunlap, \$2.75. \$1.00 in plants free with each \$5.00 order. Write for catalogue "Facts About Plants." C. D. THAYER, Three Rivers, Mich.'

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Advertisement for 'Grow Watson's Prolific Everbearing' strawberries. Includes an illustration of a strawberry and text: 'For BIG CROPS Grow Watson's Prolific Everbearing. Of luscious Strawberries, also standard Varieties. 100 each Prolific and Gibson, \$2 cash post-paid. 1 Spirea or 2 Concord Grapes with every order of \$5 or more. We also save you money on thrifty Fruit Trees, Shrubs and Ornamentals. Write for prices. Watson's Strawberry Acres, R. 8, Box 54, Grand Rapids, Mich.'

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STRAWBERRY PLANTS \$3.50 Per Thousand. Our strong, healthy, tremendous bearing plants guarantee big crops of luscious berries. Best varieties for all kinds of soils. Many new varieties such as Eaton, Bun Special, Premier, Marvel, and Cooper. The world's greatest new Everbearing Strawberry CHAMELION. Full line of Raspberries, Blackberries and Asparagus. Greatly Reduced Prices. Our customers are making up to \$1200.00 per acre from small fruits. Large stock of good Grape Plants at \$35.00 per thousand. Beautiful new color catalog free. Write Today BRIDGMAN NURSERY CO., Box 25, Bridgman, Michigan

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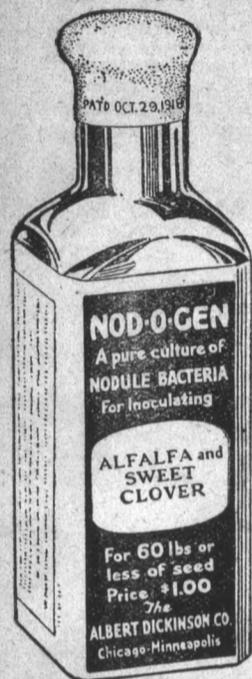
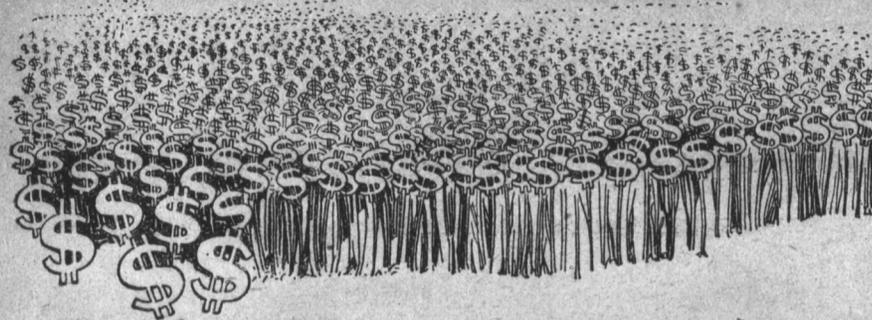
Advertisement for 'Hardy, Northern grown, best stock'. Includes an illustration of a strawberry and text: 'Also fine line Raspberry, Blackberry, Dewberry Plants, Large stock Grape Vines and Fruit trees. At lowest prices. Plants are large, heavily rooted and thrive readily. Produce big yield of choicest fruit. You can make up to \$1000 an acre from these plants. Write for free catalog and prices. Don't delay! write today. MASS NURSERY CO., RR. 3, Bridgman, Michigan'

STRAWBERRIES Can't beat price or to please. Price list. ENGLE & SON, Swanton, O

STRAWBERRY PLANTS The new Cooper Strawberry, largest, sweetest and most productive berry known. One berry makes a big mouthful, 9 berries make a layer in a quart box, 400 crates per acre. Sells for a third more than other varieties. A full assortment of other kinds of small fruit plants. Prices greatly reduced. Wholesale prices on large amounts. Our free catalog shows the Cooper and ten other kinds in their natural colors. Write for it today. A. R. WESTON & CO., R. D. No. 6, Bridgman, Mich.

Advertisement for 'GROW THE NEW MAMMOTH Cooper' strawberries. Includes an illustration of a strawberry and text: 'The big, healthy, vigorous strawberry without a fault. Gives lasting satisfaction. Nets many of our customers \$1500.00 an acre. Beautiful color, and a flavor you can't forget. 17 to 35 fill a quart. Resists drought. Bears early and late. Many growers will discard all other kinds. We also save you money on the most thrifty and profitable varieties of Strawberry, Grape, Raspberry, Blackberry and Dewberry plants. Grow in the famous Michigan Fruit Belt. Packed to reach you fresh and vigorous. We ship direct to you at wholesale prices. Special rates if you order now. Our liberal guarantee and long experience protect you. Prepare now, and you will reap big profits next year from the growing demand for good berries. Our valuable catalog, with color illustrations, tells the whole story. Write for your copy tonight. Stevensville Nurseries, Box 55, Stevensville, Mich. For More Berry Money'

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Nod-O-Gen—an inoculating culture for legumes can be used most profitably with the following seeds: **Clovers, Alfalfa, Vetches, Soy and Garden Beans, Cow Peas, Peas** (Field, Garden and Sweet).

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This **free nitrogen** causes faster, heavier growth; assures **bigger, finer crops and more profits for you.**

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Nod-O-Gen is sold by the **better seed and hardware dealers.** If your dealer does not carry **Nod-O-Gen** in stock, send us his name and address and we will see that you are supplied.

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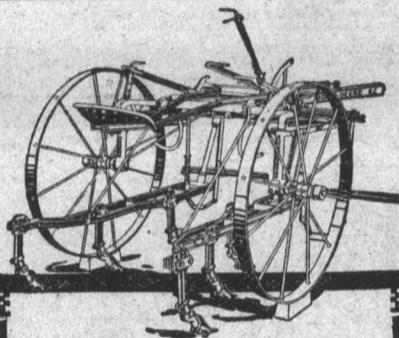
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News From Cloverland

By L. A. Chase

STUDY BLUEBERRY CULTURE.

SOME months ago we reported the results of an investigation of blueberry culture in the state of Maine conducted by the Upper Peninsula Development Bureau. While this investigation indicated that there has been built up a large and successful business in this fruit among Maine farmers, there were still several important phases of the subject that had to be considered with reference to Michigan. Market conditions in Detroit and Chicago have recently been studied by a representative of the bureau, who is particularly well qualified to make such an inquiry and he reports that so far congestion in these markets has not existed. Indeed, it was ascertained that the demand has run well ahead of the supply.

It is well understood that for Michigan farmers to develop a product for a market already overstocked would be bad business. There seems to be no danger of this at present. Another problem concerns the loss arising through seepage from the cans after the fruit has reached the market. This is attributed to the action of acid in the juice which eats holes in the containers. There is some question whether the solution of this problem has been reached. There are some indications that interest in blueberry culture has been aroused in this section and that it will be commercially undertaken on a moderate scale at least. It has recently been reported that light sandy lands adapted to blueberries are in considerable demand. No doubt conservatism should be exercised but it will be interesting to observe future developments.

UPPER PENINSULA FAIR ASSOCIATION ORGANIZED.

THERE was organized at Marquette recently the Upper Peninsula Fair Association with the following officers: President, C. R. Miller; secretary of the Schoolcraft County Fair Association; vice-president, C. E. Gunderson, of Ironwood, Gogebit county agricultural agent; secretary, E. G. Amos, Marquette, assistant state leader of county agents; directors, A. Sanders, of Stephenson; G. A. Dickinson, of Sault Ste. Marie, and I. N. Haas, of Houghton. At the banquet held on the day of organizing the association, addresses were given relating to the future plans and policies of the association, with a view to extending and improving county fairs in the peninsula. Iron Ore, of Ishpeming, in a recent editorial discussion of the fair situation in upper Michigan, says that the interest in county fairs here is certainly growing. It calls for an increase of educational features, using amusements chiefly as a means of attracting crowds to the exhibits. It also advocates the advertising of county fairs the same as other business enterprises. Mr. J. T. MacNamara, a full-time fair secretary of Marquette county, insists that no fair feature ought to be announced which it is not certain will be presented.

CALF CLUB WORK.

ON instance of the value of calf club work in the Upper Peninsula is indicated by the history of a pure-bred Guernsey bull contributed by the Stambaugh Development Bureau to the calf club of that township some two years ago. The dam of this bull has been given the official yearly test and it was learned that she had pro-

duced 14,901 pounds of milk and 811 pounds of butter-fat. The sire of this bull was Ultra King of Edgemoor, sired by Itchen May King, the grand champion Guernsey bull at the 1920 National Dairy Show, and is from a cow with a record of 680 pounds of butter-fat. Thus the members of the Cloverland Calf Club have the privilege of mating their heifers to a bull of exceptional pedigree. It is hoped that out of this club will be derived the foundation stock for several pure-bred Guernsey herds in Iron county. All Iron county farmers have been afforded access to this bull.

WINTER HARD ON PHEASANTS.

THE Daily Mining Gazette, Houghton, reports that the winter has been very hard on the pheasants introduced into that region from the State Game Farm at Mason and it is doubted that the birds can exist in that climate. Those pheasants which survived, did so, it is stated, because they were fed by farmers, and even some of these succumbed to the cold, which has been unusually severe this season. Some farmers gave shelter to the pheasants in their barns, but even so some died of cold. The pheasants cannot live off from tree buds, as can the partridge. On the other hand, it is reported that foxes and wolves are preying on the prairie chicken, which has made its way into upper Michigan from the west and has become quite in evidence here, being protected from human hunters.

DAIRY INSTITUTE.

A FARMERS'-BANKERS' dairy institute will be held March 19-20-21, at Ironwood, Escanaba and Rudyard, widely separated points in the Upper Peninsula. The programs will include talks by Prof. O. E. Reed, of M. A. C., on Dairying as a Business; Dairying in Our New Sections, by A. W. Sanborn, of Ashland, Wis.; Calf-clubs as a Means to an End, by A. G. Kettunen, assistant state leader of county agents; Why this Land-clearing, by L. F. Livingston, land-clearing specialist of M. A. C.; Local Progress and Needs in Dairying, by the county agricultural agent; Financing Dairying, by A. W. Sanborn; the Future of the Dairy Industry, by Prof. O. E. Reed; Dairying as Related to the Development of Cloverland, by G. E. Bishop, of the Upper Peninsula Development Bureau. These meetings are designed to interest local bankers in building up local dairying.

FOR EVERGREEN CONSERVATION.

AN his recent visit to the Upper Peninsula, Dr. W. T. Grenfell, the famous medical worker of the Labrador, drew an unfavorable comparison between Labrador and upper Michigan in regard to the absence of the spruce from the landscape here and its abundance in that remote, presumably barren land. While some of this destruction of the spruce here has been due to legitimate lumbering operations some of it is due to fire, and to the Christmas tree industry. Sentiment is forming on the part of large land-owners for the protection of their holdings against the removal of Christmas trees and it has been suggested that lands along the highways, not otherwise useful, be deeded to the state for park purposes, principally with a view to the restoration of the evergreens that once made our roadways avenues of beauty.

SHEEP FEEDING POINTERS.

Causes of Failure.

1. Ewes not properly fed during pregnancy or after.
2. No supplementary feeds for the lambs.
3. Failure to properly dock and alter lambs.
4. No provisions against failure of pastures.
5. No protection from other stock.
6. Pastures infested with eggs or larvae of stomach worms.
7. Failure to dip and destroy ticks and lice.
8. Failure to clip wool from inner thighs and udder.
9. Using poor scrub stock.

Reasons for Success.

1. Proper care and liberal feeding to ewe and lamb.
2. Supplementary feeding of lambs.
3. Wool removed from vicinity of udder.
4. Ticks destroyed or prevented.
5. Using good vigorous stock of desirable type.
6. Ample supply of green forage.
7. Pastures and yards kept free of eggs or larvae of stomach worms injurious to sheep and lambs.
8. Protection provided against fly nuisances.
9. Docking and altering performed at proper time.—W. E. McMullen.



Some of Clark & Ringquist's (Adrian), Spotted Poland Chinas.

STUDENTS COMPETE IN JUDGING STOCK.

TEN of the best live stock judges among the short-course students at M. A. C. have been awarded prizes following a contest which was one of the final events of the 1923 session and in which were entered a large proportion of the short-course men.

Donald Shepard, of Charlotte, high man, won a silver cup donated by Dean R. S. Shaw. Lafayette Phillips, of Deckerville, as second high man, won a registered Duroc Jersey gilt donated by L. R. Emmons, of Hastings. Phillips and two other men, John J. Goodwine, of Marlette, and Russell Welchli, of Bay City, as members of the highest ranking team, were given gold short-course pins donated by W. D. Sterns, of Detroit, formerly a short-course student.

Shepard was high man in sheep and hog judging; Phillips, first in beef cattle judging, and Goodwine, first in horse judging. D. D. Mackie, of Six Lakes, and B. V. De Claire, of Halfway, tied for first in dairy cattle judging.

Others ranking among the first fifteen are, Royal Davis, Belding; Fred Clark, Sparta; Arnold G. Otto, Detroit; Elton A. Stocker, of Metamora; Murdo G. Ferguson, of Laingsburg; Elmer M. Dobson, of Quincy; Kenneth M. Myers, of Grand Blanc; George N. Kemp, Forest Hill, and Leo A. Droste, of Detroit.

In a free-for-all contest open to all men not taking part in the regular competition, Carroll Johnson, of Casnovia, and Wesley McCalla, of Trenton, were tied for first; Roy Leonard, of Lansing, was second, and the following were tied for third: Louis Mankowski, of Gaylord; Clifford Arnold, Perry; Milton Raab, of Dorr; Alvin Frays, Sturgis; Carl Mathieson, Blissfield; E. H. Udenburg, Skanee; H. Pingle, Grand Ledge, and Wayne Kelly, Gobles.—H.

Serving the Farmer in the Factory



The long and continuous success of Firestone Tires in the service of the American Farmer began with the realization that his demands are different—and, in many respects, the most exacting of any group of the motoring public.

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In the processes that Firestone has made famous lies the secret of this universal adaptability. Thousands of farmers have learned that blending, tempering, double gum-dipping and air-bag cure, as practiced by Firestone, have an immediate application to their individual driving problems.

They find that these methods give them mileage double and treble what they obtained a few years ago. They rely implicitly on Firestone—for the uniformity of product has eliminated tire uncertainties. Firestone road grip gives them confidence through the freedom from slip or skid. Firestone resilience provides an air cushion that instantly responds to road shocks and absorbs them. And the appearance of this tire, with its rugged, symmetrical tread, is a credit to the finest cars built.

If you haven't tried Firestone, investigate. Get a first-hand acquaintance with Most Miles per Dollar—and the other important Firestone principles of service to the public.

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Most Miles per Dollar

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The "Mileage Basis" Plan

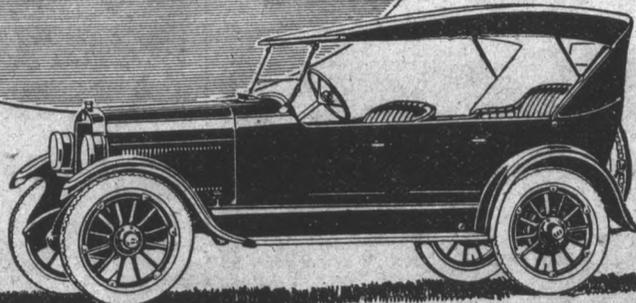
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Cylinders, Pistons, Rings—Guaranteed in writing 15,000	Transmission, axles, and major parts—Life of the car.

Oakland "6"

The 1923 Oaklands

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Sport Roadster	1145
Touring Coupe for Two	1165
Coupe for Five	1185
Sedan	1445
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THE JOHNSON SEED FARMS
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(Continued from page 407).

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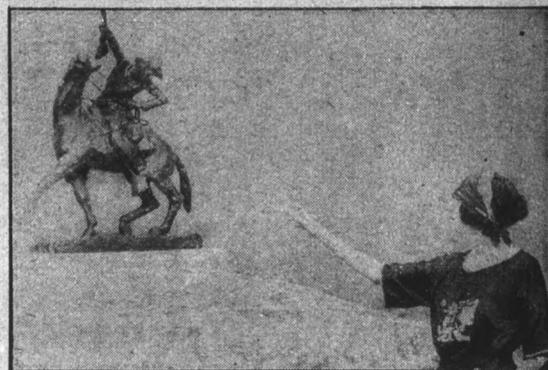
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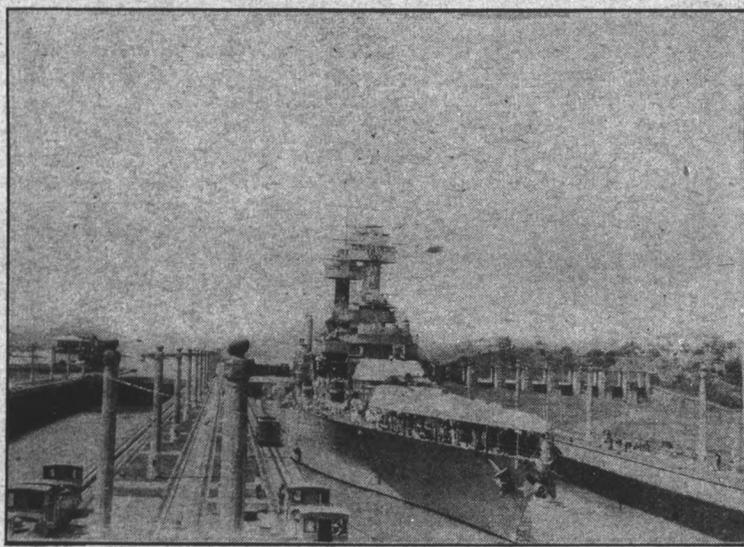
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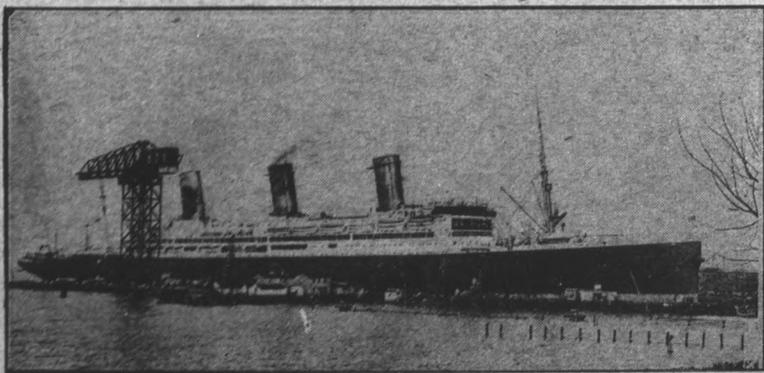
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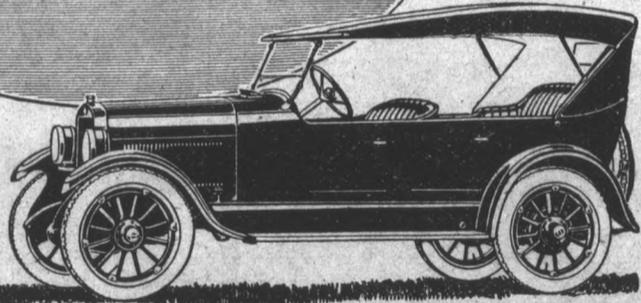
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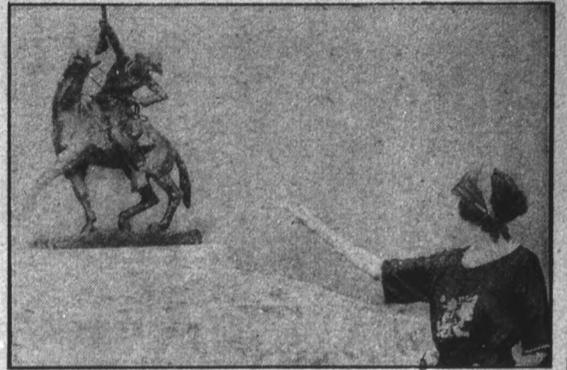
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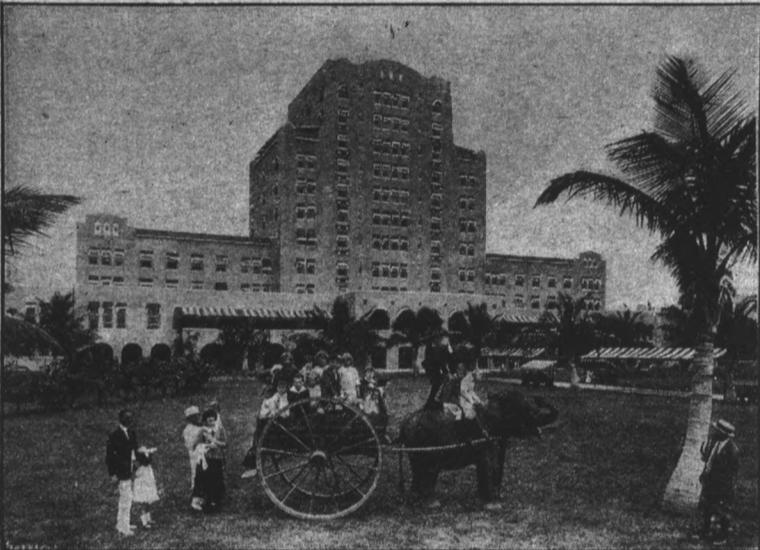
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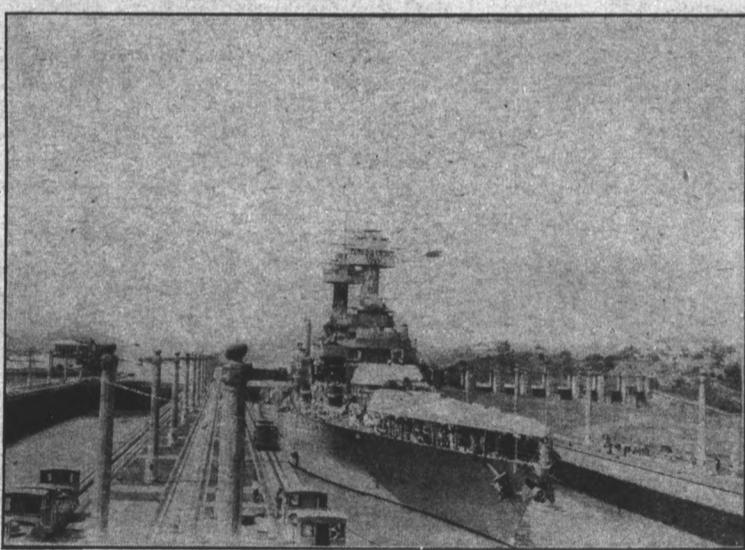
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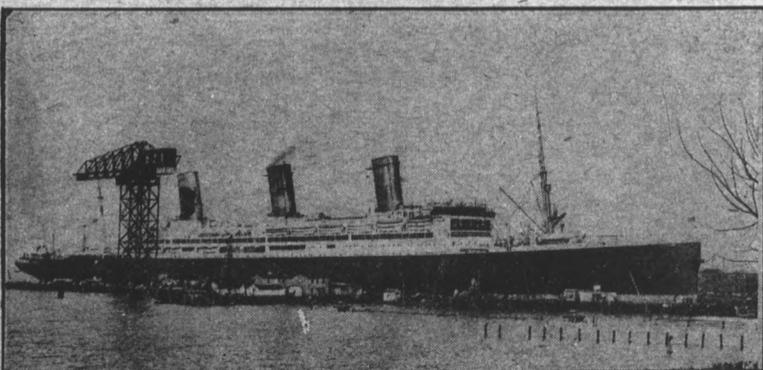
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The Oak Openings of Michigan

A Historical Account of the Early Days in the Southwestern Portion of the State

By Jason Woodman

NO purely agricultural section of the United States, not even the famous Blue Grass region of Kentucky in its natural state, was as beautiful as the "Oak Openings" of southern Michigan.

The descendant of a pioneer family that settled in Van Buren county nearly ninety years ago, in my boyhood days I listened to stories of the "great natural parks" that covered a large part of this portion of the state. Since the passing of the pioneers, however, little has been said or written about the original condition or early agricultural history of the "openings" and but few people of the present generation understand the true significance of the term.

In succeeding articles I intend to discuss some of the soil problems the openings are presenting for solution to the farmers of today. Before doing so, however, I wish to give my readers an idea as to the appearance of the country when the earliest settlers came. In doing this I shall take the liberty of making quotations from writers more skilled in the art of word painting than I am; who enjoyed the privilege of seeing the scenes they described and who, with one exception, were themselves among the pioneers who settled on the lands described, nearly a century ago.

John T. Blois, lawyer, scientist, historian, in describing southern Michigan as he saw it in the early thirties said, "the country presented an appearance eminently picturesque and delightful. The forest and open grove, the luxuriant prairie, the crystal lake and limpid rivulet are so happily blended as to confer additional charms to the finishing of a landscape whose beauty probably is unequalled in any section of the country." Elsewhere in referring to the ease with which the openings were brought under cultivation he says, "When these advantages were made known it is no wonder that a great tide of immigration set in from the eastern states. From the pages of a history of Kalamazoo county I take the following description of the "openings." "They were a marvel of wild untrained beauty. Their exquisite scenery rivalled the effects produced on many of the old estates of Kent and Somersetshire, England, where landscape gardeners for centuries have exercised their skill and artistic talent.

James Fennimore Cooper has also given us pen pictures that stir the imagination. The principal scenes of his novel, "Oak Openings," are laid in Kalamazoo county. I quote the following paragraphs from its pages: "The region was in one sense wild, though it offered a picture that was not without some of the strongest and most pleasing features of civilization. The country was what is termed "rolling" from some fancied semblance to the surface of the ocean when it is just undulating with a long ground swell. Although wooded it was not as the American forest is wont to grow, with tall straight trees towering toward the light, but with intervals between the low oaks that were scattered profusely over the view with much of that air of negligence that one is apt to see in grounds where art is made to assume

the character of nature. The spaces between the trees always irregular, and often of singular beauty, have obtained the name of Openings. In places, the trees stand with a regularity resembling orchards, then again they are more scattered and less formal, while wide breadths of land are occasionally seen where they stand in copses with vacant spaces that bear no small affinity to artificial lawns, being covered with verdure. Fire had run over the whole region late that spring and the grass was now as fresh and sweet and short as if the place were pastured; the white clover in particular abounded and was just bursting forth into blossom, while various other flowers also appeared."

These lands were unique in their



natural state and in their pioneer history. While there were areas similar to those described in nearly all the southern counties, the "Heart of the Openings" was that portion of the state drained by the Kalamazoo and St. Joseph rivers and their tributaries. A century ago that section contained many hundreds of square miles to which the vivid picture drawn by Cooper would apply, and aside from a few roving traders and trappers not a white man could be found within its limits.

My grandfather was one of the many thousand immigrants who, a few years later, came from New England to this "Land of Promise." My father, David Woodman, was then a boy in his teens. In later years he wrote a series of papers entitled, "The Early Pioneers," for the local press. In one of these articles he described the country as it appeared to him when in midsummer he journeyed along the old Indian trail that led through Jackson, Battle Creek and Kalamazoo to the mouth of the St. Joseph river. I quote the following paragraph: "The country was a great natural park, beautiful beyond description. The ground was covered with grass and flowers. The timber was so open that one could drive a team at full speed in any direction." East of Kalamazoo the country was already being settled up. Many acres of crops occupied the newly broken opening lands. The "vigorous growth of corn and heavy stubble where the wheat had been harvested bore testimony to the productiveness of the soil."

In 1827 there were only a few score of settlers in all of southwestern Michigan. In 1837, ten years later, Calhoun, Kalamazoo and St. Joseph counties alone contained over twenty thousand people, while the openings in the other southern counties were almost equally as well populated. The census of 1850 showed as many inhabitants in a large proportion of the opening townships as they have today. Excepting the great prairie areas of

the west it is probable that no section of the United States was settled up as rapidly as his part of Michigan. As Blois has said the fame of the openings spread over the east and stories of their beauty, their fertility and the ease with which they were brought under cultivation drew settlers by the thousand from New England, New York and other eastern states.

The openings presented a wide diversity in soil, in the way the timber grew and in the contour of the surface. The soil varied from chocolate colored silt loams to sands too light for long continued grain production. The timber was mainly white, black and burr oak and hickory. On the typical openings the trees were not only scattering, they were small.

There were few, if any, "venerable oaks" with centuries of life and growth behind them. The trees were young, not many of them over seventy-five years of age. There were, however, some sections where the trees stood more thickly and less numerous. The pioneers termed these lands "timbered openings."

There were also areas often many hundreds in extent where there was no standing timber. Instead, the surface of the land was thickly dotted over with "stool grubs." These were gnarled humps of oak protruding a few inches above the surface of the earth sometimes a foot or more across, with long heavy tap roots often six or eight inches in diameter. These stool grubs were very much alive, and after the annual burning by the Indians in the spring they would send up clusters of strong vigorous sprouts; while the stool or hump would add another annual ring to its gnarly growth. The next spring's burning would kill the sprouts but leave the stool alive and uninjured, ready to send up another growth of sprouts the following summer.

In some localities in southwestern Van Buren county, along the roadsides and on boundary lines between farms, can be seen belts of timber that have grown up from stool grubs after the adjoining lands were broken up and the annual burning ceased. In many cases, two and occasionally more tree trunks have grown from a single stool. These trees are three-quarters of a century old. Their swelling bases often are more than double the age of the trees they support.

In some sections of this part of the state there grew on the openings a species of dwarf oak, the stems or bodies never more than four or five feet in height, and often standing in clusters on heavy masses of roots; clumps of these diminutive trees, many years of age, laden in the fall with their crops of acorns, can still be seen along the roadsides in some parts of Kalamazoo county. In many locali-

ties, mingled with the oaks of the openings and adding another pleasing feature to the landscape, were clusters and occasionally dense masses of junipers, a species of small evergreen. While scattered over the openings and not infrequently on the prairies were thickets of hazel brush, sometimes acres in extent, that gave another touch of beauty to landscape.

In contour the openings presented a wide variation. There were thousands of acres almost as level as a floor, and again there would be sections too hilly for profitable cultivation; although by far the greater part of these lands were, as Cooper describes them, "gently rolling."

All true opening lands, however, possessed in common these qualities. The sub-soil was porous and there was natural underdrainage. The timber, whether light and scattering or whether it stood more thickly, as was the case with the timbered openings, grew with wide spaces or intervals between the groves and scattering clumps of oaks. The ground was carpeted with grass and white clover and from June to September "sprinkled with flowers of many hues."

While, as has been said, the soils varied from silt loams almost as black as the soils of the prairies, to light thin sands, the typical opening soil was a light brown medium sandy loam and the surface of the land was level, or only moderately undulating.

The grasses that covered the land when the settlers came were various species of bunch grass. There was no June grass. Chief among the bunch grasses of the openings was a tall, rank growing species known as blue stem or turkey foot, the "Andropogon furcatus" of the botanist, which by September often attained a height of five or six feet, with heavy stems and abundant leaves. Every spring the Indians burned over the openings, thus getting rid of the coarse dead growth of the year before. Following this annual burning, the grass grew green, tender and nutritious, furnishing the finest of grazing for numerous herds of deer that fed among the groves of oak. This annual burning killed the seedling trees and prevented the growth of underbrush, thus preserving the park-like appearance of the country. Each year a thin layer of ash was deposited, promoting the growth of white clover among the stools of the bunch grass. The gradual accumulation of potash, phosphorus and lime from the ash together with the organic matter that resulted from the decay of the roots of the white clover and bunch grass, furnished the abundance of available plant food which nourished the vigorous crops of grain the openings produced when broken by the early settlers.

Why the openings? Geologists tell us how the different strata of soils were laid down by glacial action, why there were hollows and hills, plains, level table lands, and large areas of gently undulating country, but why the absence of forest timber and in its stead broad stretches of grass and flower-covered openings with their "scattered growth of low oaks?" Intermingled with the openings, especially in the southwestern counties,



were belts of land covered with tall heavy timber. Many of the trees were centuries old. Why the heavy forests and the comparatively treeless openings side by side? A difference in the soil? No. Some of the timbered lands were comparatively light. Some of the openings were heavier and more fertile than the average timbered lands. Moreover, timber grows well on the openings. The "low oaks" of pioneer days, where left undisturbed, have become large trees while the maples and elms planted sixty to seventy-five years ago along village and city streets and country roadsides bear testimony to the fact that soil conditions alone were not the cause of the small scattering timber of the openings.

Man, not nature, was responsible for the absence of forests. Ages ago, before the Indians came, there were a numerous people living on these lands and, in a rude way, cultivating them. Probably there have been a succession of races. The Indians knew nothing of the mounds, the "garden beds" and the occasional remains of what were once fortified places, or of the implements of stone and bits of pottery discovered in mounds and elsewhere. The Indians did not make the multitude of arrow heads that have been and are still being found in the fields of our Michigan farms. The mounds and garden beds, forts and implements, were here when the Indians came; so were the forests with their maples and beeches, their giant whitewoods, walnuts, oaks and elms. What became of those who built the mounds and fashioned the implements of stone? Who kept the timber from growing on the openings? Did they migrate to another part of the continent? Did pestilence destroy them? Were they driven out by the Indians? Shrouded in impenetrable mystery is the history of those vanished races. Who and what they were, and what became of them, we shall never know.

WHAT'S IN A CAN OF FRUIT?

THE canning season is always an enjoyable time to me. But this enjoyment extends until the cans are all emptied. With the opening of each can there come pleasant memories and humorous occasions that make the contents doubly enjoyable to all.

For instance, when I open a can of black cherries, I see my husband dangling from the limb of a cherry tree when a sudden gust of wind blew his ladder over. I also see a wet and bedraggled creature whom he calls wife descending from a nearby tree and rushing to his rescue, while it rains and stops our picking for that day.

From my cans of black raspberries I get a picture of myself, ill, and the kindest auntie in the world going several miles to stand in the hot sun and pick them for me.

My blackberries bring a picture of the big cool woods and singing birds on that hot July day that my mother and I picked them.

The white cherries bring a picture of hubby and I sitting up until eleven o'clock to get them looked over and canned, because they spoil so easily after leaving the tree.

The strawberries show a beautiful dewy, fragrant June morning with my two boys and I on our knees gathering the beauties.

Each variety brings its picture and memories, but the best of all, I think, is the one I get from the peaches. A trip of a hundred miles and return, through the fruit belt to Lake Michigan, was one to be remembered. Miles and miles of peaches, pears, plums and grapes, our meals by the side of the road, and the night on the shore with our blankets spread on the sand and the old lake to lull us to sleep, all come back to me with each can of peaches I open.—Mrs. J. N.

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BEYOND ROPE and FENCE

By DAVID GREW

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AFTERNOON wore along toward evening and though, as shadows began lengthening they felt their pursuers had abandoned the pursuit, they did not cease running until the thickening darkness gave them a greater feeling of security. Even then their rest was a nervous one. They grazed with ears pricked and when they felt that their little ones would follow they started off again, going at a steady trot.

THEY came, late in the night, to a hollow in the middle of which was a huge shadow, which they recognized was a stack of hay. There were no lights about anywhere, nor was there the slightest trace of man in the air. A cold wind had blown up from the west and their wet bodies were made uncomfortably cold. Lying down on the open plains in that condition, they knew, would not give them much rest. They felt the need of rest even more strongly than that of food and the haystack offered protection against the wind. So they approached very cautiously.

Something white at its base seemed to have moved as they neared it, and the whole herd stopped to look and to sniff. The old buckskin mare, who was now, as she had been all the time, in the lead, took a few steps farther and sniffed again. She smelled rotten hay and with that smell came the smell of warm bodies of horses. She called out inquiringly.

In answer to her call, the white object at the base of the stack, raised itself laboriously from the ground and replied with a lazy, sleepy whinny. Immediately the little herd started toward the stack. She found the white object to be a white mare and in the rotten hay lay her jet black colt, complaining impatiently because his mother had disturbed him by getting up, and he felt disagreeably cold.

The hay was very old and very rotten, but they had not come there to feast. What they wanted was shelter from the hard wind and each one went looking for a good place to rest in. The buckskin mare almost stepped on the leg of an old work-horse. In spite of her annoying him, he whinnied so good naturedly that she decided to stay right there near him. Queen pushed herself into the hay beside the old work-horse and her mother lay down in front of her. Protected against the wind on all sides she was soon very comfortable and cozy and fell fast asleep.

CHAPTER II. To the North!

IT was in the very early hours of the morning when little Queen was rudely awakened by the sudden rising of her mother, upon whose warm flank her little head was lying. As her consciousness lighted up, she became aware of a mist disturbing odor in the air. Forms of restless horses moved about in the semi-darkness and the rhythmic sound of hoof beats told of threatening danger. Her mother was standing next to the white mare in a group that seemed transfixed by a reddish light which came from the south-

ted her from behind, pushing her half way out from between the two mares. Queen was much too nervous to tolerate his playfulness. With an impatient toss of her head she moved back against her mother and called for help. The old buckskin herself was in no mood for trifling and drove the black colt away with an angry threat. The white mare, who was as indulgent a mother as the buckskin, took the matter so seriously that there would have been trouble but for a sudden blast of wind, loaded with smoke.

There was a hurried clatter of hoofs and the herd started away as with one

then seeing that that did not move them, they came back calling coaxingly and tried to encourage them. A step at a time, their heads bobbing wearily, their sides wet, they lumbered along complacently.

The prairie fire kept gaining upon them. The mothers' anxiety turned into desperation. They came back to them and getting behind them, fairly pushed them along. Suddenly a blazing thistle, driven by the gale, rolled into their midst. All weariness, all aches and pains were at once forgotten. As if they were controlled by a single mind, they bounded forward, re-entering the race for life with an energy which they themselves did not know they had.

THE sun with smiling indifference moved rapidly down the lower half of its diurnal arc. The wind tore along behind them with irregular force and with a constant changing of direction. The smoke it had borne all day had grown less and less perceptible. The weight of Queen's body dragged more and more irresistibly downward. Her head began swimming in waves of weariness that were inundating the whole of her body; but she struggled on bravely, though she vaguely felt that it would not be long before she would be forced to give up the struggle. Then, as she reached the top of a hill, she beheld through the film of moisture in her eyes, the mares and the stronger colts who had gone on ahead, now grazing on the other side of a long, black, dried mud spot down in the hollow.

That the wind had veered decidedly, taking smell and smoke and fire off to the east, they had not even noticed. They had been running unnecessarily for some time, impelled by the fear of the burning thistle. The sight of the herd grazing with apparent fearlessness reassured them. Most of the stragglers walked on ahead to join them, but Queen selected a soft spot on the grass and dropped to the ground with a sigh.

Hunger had no power over her now. She stretched out her legs and her head and relaxed, sinking willingly into the stupor that swept over her. Her mother near her cropped the delicious grass with avidity; but the long-drawn sighs that came from her little one and the rapid sinking and swelling of her sides, worried her. She walked over to Queen, whinnied softly and licked the perspiration from her little body. Little Queen continued to

MY UNIFORM

By A. L. Rice

Oh, Mercy Me! Eternally,
They're wearin' something new;
The styles of high society,
They're always after you.
While they, for Fashion, wear the best,
And listen to her calls,
I'll take my portion with the blest
And wear my overalls.

No fear have I of critics' eye
When in my uniform;
I'm dressed alike for wet or dry,
For sunny days or storm.
And where the golfers, with their tees,
Are poundin' little balls,
I'll roll 'em up above my knees
And wear my overalls.

I milk the cow and ring the sow,
And fix the "Lizzie bus;"
I drive the horses on the plow,
I gee and haw and cuss;
I feed the sheep and clean the shed
And feed the calf that bawls—
Do ev'rything, but go to bed,
In my old overalls.

At ev'ry stunt they've borne the brunt
(Although the worse for wear)
But all the patches are in front,
Which shows, I'm gettin' there.
They'll stand the gaff while loafers set
And smoke in senate halls;
They'll take me to the State-house yet,
The good, old overalls.

west. In the distance, on the horizon, was a low crescent of fire. Far away as the fire was, Queen could see the flames creeping. It looked very much like a vast herd of glowing creatures, among which, now and then, one leaped high above the others.

Terrified so that the very muscles in her body quivered, she sprang toward her mother and pushed her way in between the two mares. Fire had been part of the horrible process in the corral, but that fire had been as nothing to this. She was afraid! She wanted to run, and she worried about their standing still.

The black colt on the other side of his white mother was not the least bit frightened. He had as yet met with nothing baneful in fires and they only interested him. At that moment, having slept well and fed well and feeling unusually good, he wanted very much to frisk about and play. He trotted over to Queen and mischievously but-

impulse. Down slopes, through wide hollows, up hills, leaping over badger holes and stones, they ran, half enjoying the excitement. Occasionally they stopped to look back with glaring eyes upon the flames that swept along in their wake, still far, but unmistakably nearer every time they stopped.

With the coming of full daylight the flames lost their brilliance and the colts, tired of running, would stop every once in a while and noisily protest to their mothers, who kept a short distance ahead of them. They would then wauld slowly and whinny until a new gust of wind with a new offensive cloud of smoke would frighten them and send them on again with renewed energy.

But their endurance was rapidly giving out and toward the middle of the day they refused to run any more. Their mothers, a few paces ahead of them, called to them solicitously, ran on as if they meant to desert them,

AL ACRES—Slim's Clock is a Bird.

—By Frank R. Lee.





breathe heavily but a note of relief entered the sound of her breathing, and now more comfortable she fell asleep.

But if Queen had gone to sleep thinking that her exhausting journey was over, she was doomed to disappointment. She woke shortly after she had fallen asleep, with a most intense desire to drink. On the hill above the hollow she saw the greater part of the herd already moving on. Some of the mares and their colts near Queen were starting away and her mother was calling her, very evidently moved by the same urge. There was nothing behind them forcing them to go. There was no discussion of any sort to make clear the need for going. In the mind of each of them there was the image of a slough. It was a sort of composite image of all the sloughs they had ever drunk from and with that image like a mirage on the prairie distance before them, they doggedly hit once more the unbroken trail to the north.

All day and most of the evening they continued the discouraging advance without coming even to the bed of a dried-up slough. That night they grazed a little and slept a little, but the thirst for water, somewhat weakened by the coldness of the early night soon reasserted itself and sent them restlessly going again. The morning brought some relief. The ground was covered with a thick frost and the grass they ate partially quenched their thirst. But by the time the sun was quite high on its arc they were as thirsty as ever and soon commenced the weary march once more.

It was in the early evening that they came at last upon a half-dried slough toward one end of which there was a good-sized hole full of water. The surface of the water was covered with a layer of ice. With her hoof one of the mares made a large hole in the ice and as many as could squeeze into the first circle around it, drank till some of the others began to fear that there would be no water left for them. Some pushed the drinkers greedily and even nipped at them but the others just waited.

Her mother was one of the first to drink, but little Queen waited till she saw two of the horses—strangers to her—turn away. The old work-horse whose good nature had impressed itself upon her at the haystack, and who by daylight seemed ever more kindly disposed, his sorrel coat somehow intensifying his harmlessness, took half the space they left and Queen walked up beside him. The old fellow's upper lip trembled in soft assurance of his friendship. Very grateful to him Queen bent down and drank, a few inches away from his head, keeping her eyes on the reflections in the water, raising her head hastily just as soon as one of the reflections moved.

The world seemed altogether different to her after that drink. It seemed as if every wish of her little soul had been gratified. She was still tired but it was not a very painful tiredness and not strong enough to keep her from preferring the tender grasses in the old slough to resting.

NIGHT came again. The wind completely changed. It blew strong and cold now from the southeast. The sky was very clear and in the north just above the horizon many lights

quivered. The old buckskin mare settled down comfortably in the midst of the other mares and little Queen nestled up against her warm body. With her head upon her mother's flank she delighted in her comfort and gazed at the northern lights, whose brilliant display did not seem to worry the older horses. Yet so long as Queen's eyes were open they were fastened upon those lights; and so long as the little brain was awake it kept wondering with a bit of fear what they might mean, for they were different from fire yet moved as fire did.

SHE had slept a long time when she was awakened by the sound of anxious neighing that seemed far away and yet filled the air above the little valley. Upon opening her eyes she beheld the northern lights so clear and so near that she trembled for fear of them, and was certain that the disorderly running about that she heard was due to the same fear. But when her mother jumped up and she followed, she discovered that the frightful odor of fire was coming on the wind from the south, where she had last seen the flames creeping behind her.

The same confusion, the same bewildering excitement and again the wearing race for life began. That they ran directly toward the northern lights convinced her that these were as harmless as the moon and stars. With very few differences this flight was like the first. Though the discomfort of it was even more hateful to her, Queen felt no impending breakdown and without realising it, she was stronger now.

Dawn came and soon gave way to a somewhat dull day. The wind changed several times and finally for a while died down altogether. There was no trace of smoke in the air, but the south was now established as a region of horror and they continued their flight northward till late in the afternoon.

They ran down a steep hillside dotted with many knolls and stones and came into an elongated, bowl-like valley toward one end of which there was a small spring lake. There they stopped to drink, to graze and to rest.

Just as the air in that valley bore no trace of smoke, the plains that stretched away from that valley bore no trace of man. A few grass-overgrown buffalo trails led from the lands above to the deepest part of the ancient lake and a bleached buffalo skull beside the main trail told the story of a day and its life that had passed.

A coyote den at the opposite end of the bowl and half way up the slope gave the only evidence of life about the lake. The rim of the bowl shut away the barrenness of the prairies above. The very dome of heaven rested upon the rim of that bowl and vast primordial spaces interposed protection against man's greedy intrusions.

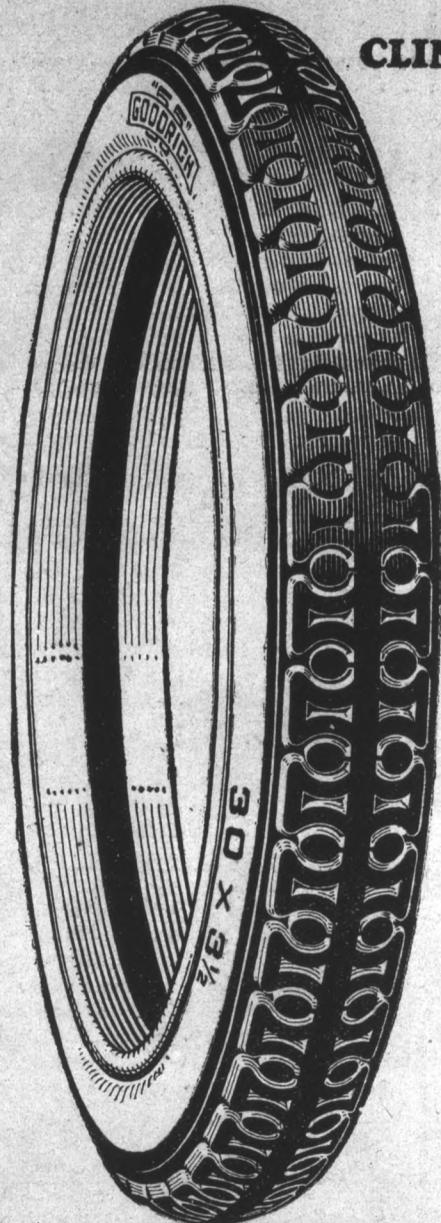
Little Queen drank some water at the ice hole, drank the milk that nature had prepared for her with all the care and concern of her mother's love, then slept away another night at her beloved mother's side, never even dreaming that this night was shutting fast forever the doors behind which lay the closed first period of her life.

(Continued next week).



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The World's Savior

Our Weekly Sermon—By N. A. McCune

If Jesus Christ is a man, and only a man, I say, That of all mankind I will cleave to Him, and cleave to Him always. If Jesus Christ is a God, and the only God, I swear, I will follow Him through life and death, the sea, the sky and the air.

WHEN one thinks of the Savior of our world, he is reminded of the above lines. One of the greatest teachers of the Christian religion of the past one hundred years was not a minister of any church, nor a professional religionist of any kind, but a poet, Robert Browning. He believed in Christianity so completely and with such enthusiasm that he never could get away from the subject for very long. One of his poems is called, "Christmas Eve." He represents himself as being driven by a storm into a small chapel on Christmas Eve, just as service was beginning. The people were poor and unattractive, but the poet finally went in, because there was for the time no where else to go. He sat down, he says, beside an enormous-



ly fat woman, who kept twirling her thumbs and who grunted approvingly as the preacher went on from one point to another, in his sermon. On the other side sat a workman who has a big wen on his head. The visitor was bored by the whole thing—the uninteresting sermon, delivered without emphasis or expression, the old-fashioned theology, and the very self-satisfied air of the church members.

Unable to endure it any longer, he rose and went out. Presently he met a strange being who spoke to him, and told him to seize his robe. Doing so, he was caught in the air, traveled at incredible speed, and landed in Rome. A vast concourse of people was gathered in St. Peter's Cathedral. He finds that there is a message for him here. But presently he is carried away again, and arrives in the class-room of a German university. The professor is droning out something about the myth of Christ, but advises his pupils to follow His, as there is no other being who ever attained as high a state of perfection as Christ. And then our poet finds himself once again in the stuffy little chapel, and the minister is finishing his sermon. The poet finds there is more to the speaker's words than he had recognized, before. To be sure, the truth is not put in a very appetizing way, but the truth is there, nevertheless, and there is nothing that can be substituted for it.

LOOKING out on the world, it may seem to some people (and indeed, we know that it so seems to some people), that the Savior who made His human appearance in Galilee is less respected now than he has been in the past. In other words, it is easy to be a pessimist, if you are inclined to be. There is excuse for it. But the pessimist is the most uninviting of companions. Nobody is drawn to him, and he is unattractive to himself. There must be some other way of looking at things. In fact, it has been shown more than once that the pessimist is not a safe guide. He isn't a guide at all. He does not have the life, the virility, the eagerness to guide. The war has increased the attitude of pessimism immensely.

We all talked about it being the last war, the "war to end war," and the

like. But the world is no more cleansed of its folly and its selfishness than if ten million soldiers had not died. A public speaker said the other day that all that the war had done was to make the cigarette and the wrist watch respectable. Probably it isn't as bad as that. But at any rate, we ought to be cultivating the attitude of optimism.

And Christ is the greatest teacher of optimism in history. The last thing before he was crucified he said, "Be of good cheer, I have overcome the world." Following the resurrection, his appearance among his friends transformed them. They were like different human beings, so intense was their delight. The study of His life now produces a feeling of security, of peace and calmness. A famous minister said a year ago that it was very hard for a man with a New Testament in his hand to be discouraged. The reason so many people who have Bibles in their houses are dejected and spiritless is, that they have never learned how to tap the reservoirs of life, hope, and cheer to be found in this little book of twenty-seven parts. Christ is the world's savior because he is the supreme optimist, and his optimism is sound because it recognizes all the facts and rests on truth.

BUT we do not stop with his general attitude toward life. We also note what he can do with the individual. Sir Wilfred T. Grenfell has become known on two continents because of his work among the fishermen of Labrador. He entered this work in a most interesting way. He was a medical student in Oxford University, England, when Mr. Moody, the American evangelist, came there to hold meetings. Out of curiosity, young Grenfell went one night. A season of prayer was called for, and a man began to pray. He prayed and prayed and kept on praying. Presently Moody rose to his feet and said, "While the brother is finishing his prayer, we will sing so and so." The incident so amused Grenfell that he fell in love with the speaker, and after that he fell in love with the speaker's Lord. He was converted, and afterward devoted his life to the neglected and forgotten folk who risk their lives in deep sea fishing.

Here is another case. A Michigan pastor tells how he was converted through the influence of a man in the army, named "Billy Nail." They were in the British army in Palestine. Billy Nail was a very religious youth, and used to read his Bible every day. As they approached Jerusalem the regiment had to take a certain village and advanced under fire. The captain of the company to which the narrator belonged fell dead in a hail of bullets. They pushed on, but a bullet struck Billy in the heart, and he sank to the ground. As he did so, he cried, "Lord, I'm coming home." Billy's pal went on, but Billy's last words kept ringing in his ears. What did they mean? "Lord, I'm coming home," surely if anybody was saved, Billy was. A new life came into the soldier's life. "Conversion became a real fact to me that day," he says, "it meant more than repentance to me, it meant the giving of my life to the God of life."

SUNDAY SCHOOL LESSON FOR MARCH 25.

SUBJECT:—Jesus, the Savior of the World.

GOLDEN TEXT:—Faithful is the saying, and worthy of all acceptance, that Christ Jesus came into the world to save sinners. 1 Tim. 1:15.

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Rural Health

By Dr. C. H. Lerrigo

GET WELL IN MICHIGAN.

EVERYONE likes to hear what has actually been done by some individual in winning a hard fight, and especially if that fight has been made against disease. I think Mr. J. E. Stocker, of Detroit, Michigan, made a very valuable contribution to literature when he wrote, "How I won the battle with tuberculosis in my own home," a pamphlet that is now distributed by the Detroit Tuberculosis Society. Mr. Stocker made all the mistakes that such a patient usually makes and had the usual bad luck of not getting into the hands of the right kind of doctor. When his disease was first diagnosed he had a doctor who kept him going daily to his office for treatments, at a stage of the disease when he should have been kept strictly to bed. The patient suffered relapse after relapse and was thoroughly discouraged when, by some good fortune, he chanced upon a book from which he learned that rest is by far the most important thing in the treatment of tuberculosis, even more important than fresh air.

He decided to give this genuine consideration and to try to get well in his own home, and to begin with six months of absolute rest in bed. He says: "I took all my meals in bed; I did not so much as move a finger unnecessarily; meats were cut for me into small pieces, to avoid the exertion of my cutting them. I was as careful not to make any quick or sudden movement as I would be if I were nursing a broken limb. Newspapers were cut for me, so I need not take up more than one sheet at a time. I did not bend down to pick up objects or reach up for things that were above my head. I avoided all unnecessary talking."

After his six months in bed, he began very gentle exercises, but it was two months before he progressed to the point of walking, and even then he made haste very slowly. Gradually, warned by his past relapses, he won back to a normal life. At the time of writing his pamphlet he had been living the life of the average well person for two and one-half years. After such an experience, however, he is wise enough to know that he must always live a life free from strain, that he must get more rest than the average man, that he must always eat a nutritious diet and that he must be especially watchful about colds, influenza, etc.

I do not know Mr. Stocker; I do not know if he is still carrying on his fight; but I do know that such a record of actual experience will carry more weight with the average citizen than the admonitions of a whole college of physicians.

LOOK AFTER TEETH.

I have backache; no steady pain and does not bother in walking, but gives a catch when I stoop over or raise up. Also have a front tooth which has now stopped aching but has left a pocket of pus. Is it dangerous?—Mrs. L. D.

It is just possible that your backache and tooth trouble have some connection. We know that the aching troubles that we used to classify as rheumatism come chiefly from a poisoning of the system that arises from absorption of pus from abscessed teeth and diseased tonsils and other sources of infection. Have the tooth removed by all means. Also begin to take daily exercise for the muscles of the back, increasing the exercise daily,

and this will cure your ailment if it is simply a muscular lameness.

WHAT CLIMATE FOR TUBERCULOSIS?

What can you tell me about the best climate to go for cure of lung trouble?—J. J. B.

Are you sure that you need any different climate from that of Michigan? Experts in tuberculosis are more and more insistent that the disease may be treated without a change of climate. The only advantage of a mild climate is that the patient may spend more days out in the fresh air; but such a move also has many disadvantages, chiefly with reference to expense and to separation from home comforts. Do not change climate unless recommended, for some special reason, by an expert in diseases of the lungs.

VEGETABLES FOR CONSTIPATION.

I read where the leafy vegetables were highly recommended for cure of constipation. What kind of leafy vegetables should not eat?—N. M.

Some of the leafy vegetables that are most available are lettuce, cabbage, Swiss chard, and cauliflower. Spinach is also very good. For some seasons these vegetables are more easily obtained by city folks, who can order them from their grocer than by people who live in the country. If you cannot get them in any other way send to town for them. They are worth while.

MILK DRINKING FOR FATTENING.

I have been recommended to drink milk to help me fatten up, but I have heard that drinking milk is likely to bring on pimples, and even boils. How can that be prevented?—S. A.

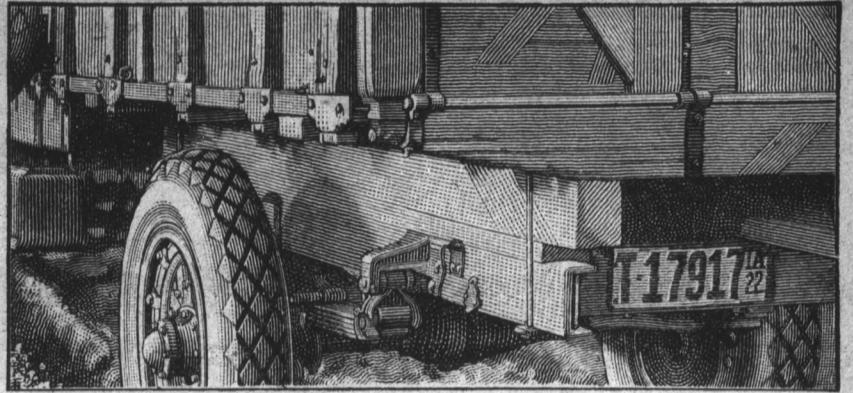
Nothing to it. It is possible to drink milk in such quantities as to cause derangement of the digestion, and perhaps such disorders do allow acne to develop. The charge has never been proven, though, and it would be absurd to leave milk out of the diet for any such fear. If you have reason to believe the milk to be too rich for your digestion, take off some of the cream. As a general rule, there is no food that is so easy of digestion as milk and milk products.

CONSTIPATED BABY.

Can you tell me what may cause a baby, five weeks old, to be continually constipated? Her bowels never move naturally. I feed her cows' milk and a little oatmeal gruel. I dilute the milk as follows: One ounce of milk and two ounces of water.—Mrs. H. G.

Don't worry about your baby being constipated. Move the bowels with a small enema or a glycerine suppository once a day when required. It does no harm and as soon as she gets old enough to have a mixed diet the trouble will correct itself. The important thing about your baby is to be sure that she is well nourished. Is she gaining ten to sixteen ounces a week? If not, why not? The probability is that she is fretful because she does not get enough nourishment. Watch this. If she is not gaining in weight increase the amount of milk and make it richer by adding a little cream, being governed by her digestion. Be sure that she gets water to drink at regular intervals.

When you cut ham or bacon, to run lard over the exposed surface will guard it from mold.



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SAVE THE TRADE MARKS

Woman's Interests

Few Hints for Sweet Pea Lovers

Plant the Seed Early if You Would Have Well Developed Blooms

By Nelle Portrey

IT would be difficult to recall all the women I have heard declare that sweet peas were their favorite annual. Popular, and a general favorite in our grandmother's day, they are no less so now. One seldom sees a summer garden without a wealth of these fragrant blooms. However, this is perhaps due to something besides the universal favoritism felt for the sweet pea. They are one of the easiest of the annual to grow.

I would not advise any one to purchase seeds from their general store or from some seed house that is comparatively unknown. Order from a company who has a reputation to sustain, and if you pay a few cents more per ounce, do not consider the money spent foolishly. I have always considered that the mixed varieties were more attractive for the home garden than to have each kind in a separate row. But many women raise a quantity of the blossoms for their home market. These are often sold to cafes, hotels and restaurants; when this is done, the varieties should not be mixed together.

Prepare the ground as early as the

it is time to put up, the netting for them to climb on. This should be four-foot poultry netting, and we stretch it between the rows. When the plants begin to bloom, do not neglect to keep them closely picked, never allowing a

blossom to become faded on the stem. This greatly assists in keeping the plants in good blooming condition as well as insuring larger blossoms.

Do not plant the same soil to sweet peas season after season, but rather, choose a different spot for them each year.

Put Away Winter Wardrobe

IT is about time to put away the winter clothing, and if done properly, it will be a joy to open the closets, boxes, or drawers next fall and find all of the garments clean and in repair. All outside garments, such as dresses, suits and coats should be well brushed and spots removed. If they are badly soiled they should be sent to the dry cleaner or cleaned at home in gasoline, (cleaning grade), pressed, and hung on hangers.

If clothes hangers are not available use rolled newspapers, tied through the center and suspended by a loop. A smooth stick or a piece of barrel hoop, padded, and covered, answers the same purpose. More garments may be hung in a small space if one or more rods are placed crosswise in the closet. These rods may be made from broom sticks or curtain poles.

Skirts should be hung from the skirt band. Trouser hangers of various types are good, or large safety pins make good substitutes. All garments that are loosely woven and are apt to stretch should be kept in a box or drawer.

Furs or woolen garments can be cleaned with a vacuum cleaner. If there are any moths or moth eggs in the garments they will be quickly removed by this process. If a vacuum cleaner is not available use a brush and shake the garment well. Undyed furs should be very carefully put away for moth millers are sometimes out by the middle of March or first of April. There are various kinds of effective

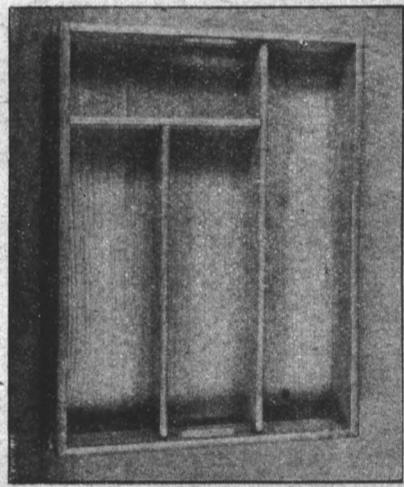
moth-killing compounds on the market. These compounds can be used on either woolen or fur garments.

Dresses, suits, coats, etc., should be protected from dust, coal smoke, etc., by covers made from old garments, old sheets or cases made for that purpose. All heavy underwear, stockings, woolen mittens, scarfs, bedding, etc., should be carefully washed and mended before putting away. If the clothes are thoroughly cleaned, it will increase the length of the service of the garment. Perspiration and dust injures the fabric. Shoes should be brushed, cleaned and put on shoe trees. Shoe trees keep the shoes in shape and allow a better circulation of air through the shoe.

KLEVER KINKS FOR BUSYBODIES.

WHEN the triangular floor duster wears off its dust catching strands at the apex, it can be renewed as follows: Cut a cast-off cotton or silk stocking round and round in one-inch strips. Sew this in long loops to the frame to replace the worn parts. Apply a few drops of oil and for all practical purposes the duster will be as good as new.

To frost a cake in a hurry, moisten one large cup of powdered sugar with some juice from strawberries, raspberries or cherries. This icing hardens nicely and has a delicious flavor. Use only enough juice to allow the mixture to spread evenly. Fresh strawberries crushed with powdered sugar makes a nice frosting also.



That the silverware may ever be kept in good condition and in order, get friend husband to partition one of the small drawers of the buffet after this fashion. It gives space for the knives, forks and spoons to be by themselves, and there is also room for the other pieces of silver.

frost is out of the ground, and if this is a few weeks before time to plant, so much the better. Dig the trench the desired length and two feet deep, as well as two feet wide. Put in a layer of manure. Fill in the remainder of the trench with a mixture made of equal parts of well-rotted manure, leaf mold and garden loam. Have the trench run north and south, if possible, as this permits the plants getting more sun. I always prefer to have my sweet peas planted in double rows as this allows room for netting to be stretched between the rows.

Early March is usually considered the best time to plant sweet peas. Make a furrow six inches deep and the full length of the trench. In this drop the seeds, an inch apart. Cover to the depth of two inches and press the soil down with a two-inch board. Water well and in two or three days the little plants will begin to appear. Until they are three inches tall they will need watering every fourth day. After that they should be watered once a week.

When the vines are four inches tall

Household Service

Use this Department to Help Solve Your Household Problems. Address all Letters to Martha Cole, Michigan Farmer, Detroit, Mich.

TO CAN VEAL.

Have you a good recipe for canning veal? If you have, would you please send it to me, as I would like to can some veal for summer use.—Mrs. C.

The canning of home-made meats is a great convenience as well as a profit to the farm wife. The following is a good recipe for canning veal:

If the meat has become frozen, be very sure that it is well thawed out before the canning process is begun. Cut the meat into pieces suitable for serving and pack firmly in thoroughly sterilized jars. To each quart can add one teaspoon of salt and add medium-size pieces of fat. Some of this may be added when the jar is half filled. Place the covers on the cans tightly, and then take a half turn back. Process in hot water bath from two and a half to three hours, according to the tenderness of the meat. In the event

that you are fortunate enough to have a steam pressure cooker, sixty minutes under fifteen pounds of pressure is sufficient. Seal the jars tightly and store in a cool place.

HARD SOAP.

Could you kindly advise how to make some good hard soap? I have quite a bit of tallow, and thought perhaps you knew a recipe for making this into soap.—Mrs. H.

To make hard soap, put seven pounds of tallow, three pounds of rosin and two pounds of potash in six gallons of water and boil from three to five hours. Pour into wash tub and let stand over night. In the morning cut into bars and lay in the sunshine for two or three days to harden. This amount will last the ordinary family a year and is a great economy.

My Favorite Recipe

By the Prize Winners

THE way to a man's heart is through his stomach." That ancient, trite adage has proven as true in these modern times as in the day when it was originated. Every housewife has added or subtracted from various standard recipes until she has arrived at a result satisfactory to herself, Mr. Farmer and family.

Hundreds of thoroughly home-tested recipes were received in our recipe contest. The prize-winners were selected as being just a little different from those appearing on the every-day menu, and yet entirely practical for the farmer's family. So many times you have said to yourself, "Oh, what shall I cook for supper. I wish I knew of something different." Next time this problem comes up just try some of these toothsome recipes and see if friend husband and the kiddies don't give you an extra comp. for your efforts.

Of course, it is not possible to publish all the recipes I received. But as many will appear in this department as space will allow. I shall be very glad at any time to send you any special recipe you may desire.

First Prize.

Mrs. A. R. K., New Lothrop, Michigan.

English Pastry.—Make pastry as for ordinary pie crust. Divide into as many parts as there are those to be served. Two portions can be baked quite well on one pie plate. Roll crust rather thin and into each mince a little onion, diced fresh pork, diced potatoes, carrots, rutabagas, and season with salt, pepper and bits of butter. Roll one-half of crust back over the vegetables and pierce the top. They will look like the old-fashioned apple turnover. Bake one hour in a rather slow oven and serve hot.

Pork Fritters.—Freshen salt pork, cut in rather small pieces and fry crisp. Beat one egg yolk with one-half cup of milk, a little salt, one-half teaspoon of baking powder and add the beaten white of egg with flour to make a stiff batter. Dip by spoonfuls into the hot pork grease, then the fried pork upon the batter, and lastly a small dip of batter; fry until brown, and turn.

Second Prize.

Mrs. C. J. A., Boyne City, Michigan.

Beef Birds.—One pound of beefsteak, cut thin; bacon, sliced thin; browned flour.

Cut steak in small pieces about three inches square. On the middle of each square place a small piece of bacon and a slice of onion. Fold over the edges, making small rolls of the meat and pin with toothpicks. Brown in a little butter or pork fat. Sprinkle two tablespoonfuls of browned flour over the birds and add salt and pepper. Pour two cups of water over all and cook slowly for two hours. These are very nice.

Raspberry Pudding.—One cup of sugar; one-third cup of butter; one egg; one cup of sweet milk; two teaspoons of baking powder; one and one-third cups flour.

Mix ingredients and bake in a shallow cake pan. When cool, cut in squares. Into individual sauce dishes place a square of cake and add two tablespoonfuls of crushed or canned berries. Place another square of cake

over. Cover the top with berries and add a spoonful of whipped cream.

Third Prize.

Mrs. W. B., Climax, Michigan.

Chop Suey.—Half pound of rice; one cup of chopped celery; one cup diced onion; three-fourths pound beefsteak, veal or lean pork; two tablespoonfuls sugar; salt and pepper; six tablespoonfuls of chop suey sauce; two tablespoonfuls cornstarch or browned flour; two cups water.

Cook rice first, then cut meat into small cubes and fry in butter until well browned. Add the water, celery and onions, salt, pepper and sugar. Cook until vegetables are half done, thicken with the cornstarch or browned flour. Add the chop suey sauce (this may be purchased at the grocery). Serve hot. I call it my "three-in-one" meal, for, served with hot biscuit and tea and a light desert, it makes a wholesome meal.

Fourth Prize.

Mrs. M. L., Hastings, Michigan.

Butterscotch Pie.—Put into a frying pan a piece of butter the size of a large walnut, and let brown. Add one heaping cupful of brown sugar to which one tablespoonful of cornstarch has been thoroughly mixed. Stir this into the browned butter and it will become very waxy and hard. Beat yolks of two eggs and add one and one-half cups of milk. Pour this slowly over the hot sugar and stir until all is dissolved and cooked smooth. Flavor with one-half teaspoonful of vanilla, and pour into a baked crust, using the whites for the top. Brown slightly in the oven for three minutes.

Fifth Prize.

Mrs. J. L., Dafer, Michigan.

Carmel Pudding.—Melt one cup of brown sugar in a frying pan. Add about two and one-half cups of milk. This will make the sugar harden and will take a few minutes for it to dissolve in the milk. When thoroughly dissolved, thicken with flour and water or cornstarch and water, as preferred. Serve with plain cream. The pudding may be poured into moulds and bits of fruit added for a variety.

HELPFUL HINTS.

To transfer the feathers from bed pillows to new ticks, the following method may be used: Rip open the end of the new one over the open end of the old pillow. Baste firmly together. Take hold of the end of the old pillow and shake feathers down into new tick. Rip the basting a few inches at a time, pinning new tick together as old one is slipped off. This method keeps feathers from blowing around, as they will do when transferred by hand, and it is also a great saving of the feathers.

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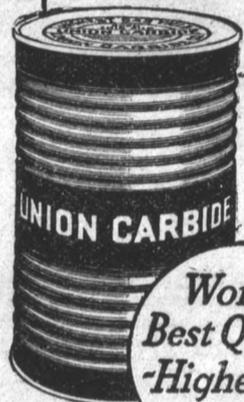
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Our Boys' and Girls' Department

Why I Like the Farm

Some Interesting Papers Received in One of the Contests

By Daniel Boone, Holland, Mich., R. 10.

I am a farmer's son and I like the farm because of its advantages. I can learn about all the animals my father keeps. I also can learn about a few wild animals, such as the rabbit, muskrat and squirrel. They are small and unnoticed by many people, but their ways are very interesting. I never lived in a city, but I can never believe that the boys and girls there enjoy life as I do. When I grow to be a man, I expect to own my own farm. I do not care to work in a stuffy office under the command of a boss.

My father grows many crops, which I can learn about. From these I learn how people are fed in the whole world.

We live near a river in which my brother and I swim in summer. We have made a swimming hole of our own. Most cities nowadays have built



Torrey Riefal at Farm Duties.

public swimming holes, but give me the country river hole! We have a little dam which makes the water deeper. We boys can go in swimming in our birthday suits.

My father owns a small flock of sheep. These are very interesting creatures to me. Just now the spring lambs are coming. They have long legs and are funny sights. It is great fun watching the awkward little things. I don't believe city boys enjoy such sights.

Nor do they have the fun of "hoeing races," up and down the long rows of corn, or stealing a swim at noon when father takes a nap on a horse-blanket.

Milk, eggs, and fresh fruits, such as apples and berries, make the farm a healthy place for me to live.

By Donald J. Staebler, Ann Arbor, Michigan, R. 8.

I like the farm because every night I can have all the nice warm milk I want to drink, and lots of nice fresh vegetables to eat.

Of course, we can't go roller skating, because we have no sidewalks. But in winter we can go ice skating without paying admission.

At school we have all our classes in one room and don't have to pass from one room to another.

And, too, we can go horseback riding and if we happen to let out a war whoop once in a while there is no one to complain.

And, best of all, (now listen, city folks), we have good, pure water to drink, and most of you have to drink water from the rivers.

I like to be where the horses, cattle and sheep are, and the zoo in the city park contains no cuter sight than a bunch of little baby pigs.

Give me the farm, with its large

open fields and the woods where the little furred animals run at will, with the broad blue sky overhead where no large buildings can obstruct my view. Oh! the farm is filled with a number of things to interest any live boy or girl.

By Robert Larson, Cadillac, Michigan.

There are a great many reasons why I would rather live on the farm than in the city. In the country one is gifted with pure air, pure drinking water, and quietness. There is lacking the disturbing hustle and bustle of the city.

It is just as convenient to live in the country as in the city, because the farmers can have electric lights, telephones and furnaces. The water in the country, as I have said, is purer than in the city, because there is not so much dust, and everybody isn't drinking from it.

One can have as much amusement in the country as in the city. Of course they cannot have moving pictures as often as they might in the city, unless they have a moving picture machine of their own. But there are canning clubs for the girls, corn clubs for the boys, and the ladies can have their

sewing-circles and leagues.

Another good thing about the farm is that the young men can not go to the poolrooms often, and thus lose the respect other people have for them. The farmer may have an automobile and the other conveniences named above if he is well-to-do enough, but the farm is the place for men, not loungers, if it is to be successful. Besides, the nation depends on the farms for the food.

By Irene Hughes, Elizabeth Lake Road, Pontiac, Michigan.

I like farming because it brings you in close contact with nature. You are dealing with live things, helping them to grow and prosper, and in the end reaping a fair profit. Then, too, pets may be found in the form of chickens, cats, dogs, horses, cows, pigs, ducks and geese, who, with very little care, make great pets.

On a farm, be it spring, summer, autumn or winter, you see nature at her best. Flowers and leaves of various kinds are always within reach. Of course, there is work, but without work, who can be happy?

Live, rejoice and be happy, that is the creed of the farm. Your food is always pure. If you wish for a little glimpse of city life, why, just crank up the old "bus" and away you go.

Anyone can be happy on a farm, especially on one in Michigan.

Club work Endorsed

Agricultural Leaders Appreciate Its Influence

BOYS' and Girls' Club Work has long since been received and promoted by both individuals and organizations. That this approval is receiving publicity is shown by the following public statements.

At the thirty-third annual convention of the International Association of Fairs and Expositions, held at Toronto, Canada, November 28-December 1, the following resolution was adopted:

"Whereas, there has been a growing realization on the part of fair and exposition managers of the benefit derived through encouraging and supporting Boys' and Girls' Club work, not only in building up an intensely interesting and valuable educational feature of our fairs, but also in the constructive all-the-year-round incentive toward more intelligent, efficient, and profitable farming and home-making given to the boys and girls of today, who will be the farm men and women of tomorrow, therefore, be it resolved, that we recommend that the members of the International Association of Fairs and Expositions extend their support of this important activity to the department of agriculture and the colleges of agriculture for the splendid work which they are doing through their extension divisions in promoting Boys' and Girls' Club Work and for the cooperation they are giving in developing this feature of our fairs."

At the seventh annual convention of the Michigan Association of Fairs held in Grand Rapids on February 27-28, the following resolution was adopted:

Be it resolved, that the Michigan Association of Fairs endorse the action taken by the International Association of Fairs and Expositions relative Boys' and Girls' Club work with the assurance of our appreciation in this matter.

Resolutions adopted at the annual meeting of the Michigan State Farm

Bureau, M. A. C., February 1-2, 1923:

"Be it resolved, that the Michigan State Farm Bureau, believing that Boys' and Girls' Club work is an agency through which not only good farm and farm home practices are taught and demonstrated, but that it is also a means of demonstrating the practical and educational value of cooperative group activity, does hereby endorse that work and recommend it to the several county farm bureaus for their consideration.

Mr. Cunningham, secretary of the Iowa Farm Bureau Federation, recently wrote about club work as follows:

"In this connection, permit me to



By One of Our Junior Artists.

say that one of the most outstanding developments during the past year, which has been an unusually hard one on the farmers generally, has been the club work. This line of work has gone steadily forward throughout the state, and the interest at this time is very keen. I consider it one of the real outstanding pieces of work and one that is bound to bring considerable strength in the years to come to organized agriculture. The boys and girls of the state are learning how to do things in a cooperative way and in a spirit that harbors no resentment or

vindictiveness on the part of those who are interested in the work. This is bound to lead to the development of a broader vision of the needs of agriculture, for a thorough-going business-like farm organization, always on the job and functioning in a manner that will commend itself to all the

various interests of the country." Boys' and Girls' Club work in Michigan is supervised by the extension division of the Michigan Agricultural College. Information regarding this work may be had by writing to R. A. Turner, State Club Leader, East Lansing, Michigan.

Our Letter Box

THIS letter box will be where the boys and girls can express their views, tell of themselves and things about the farm, or ask advice. The most interesting letters each week will appear here. — Address your letters to me.—Uncle Frank.

Dear Uncle Frank:

You cannot imagine how pleased and surprised I was when I received the Merry Circle button and membership card. I thank you very, very much for it. It is surely beautiful. I will be pleased and proud to wear it among my friends and be able to tell them I am a member of the Merry Circle of the Michigan Farmer. The motto on the membership card means a good deal and I am going to try to live up to it.

I live on a farm, which is the only place to live. I like to be able to raise chickens and pigs and such animals, an advantage which comes by living on the farm. I would not live in the city for anything.

I am glad you are pleased with your button and card. And it is fine that you are so loyal to the farm.

Dear Uncle Frank:

I can't leave the paper alone. I want to write to you so bad. My Pa said I was too young, but I will do my best. I haven't very many uncles and I'd like to have another one, and that is you, Uncle Frank.

Am a girl ten years of age and in the fifth grade. We have a puppy dog. We have lots of fun with it. When we come home from school he is always watching for us.

Good-bye. Your loving niece, Lora Vroman, Durand, Mich.

You are not too young. In fact, you have two years to spare. The age limits are eight to eighteen.

Dear Uncle Frank:

I received my pin and membership card and I am very well pleased with them.

I believe in knowledge because, when you grow old you will need it. I suppose you are using all your knowledge now that you learned when you were a boy.

I am only thirteen years of age and in the seventh grade, and I am working hard to pass.

As my letter is getting long I will close.—Rosie Stecky, Ithaca, Mich.

Yes, I am using all the knowledge I learned when I was younger. The only trouble was that I did not learn enough.

Dear Uncle Frank:

Thanks ever so much for the pin and membership card. When I got home from school, my little sister says, "You don't know what you got today," and I says "What?" and she says, "a letter from Uncle Frank." Well, I was certainly surprised when I saw it. I was so anxious I sat right down and wrote to you. I am glad I am invited in your Merry Circle. Well, I will end my chatterbox with happiness always to you.—Your niece, if accepted so, Kathryn Smith, Hastings, Mich., R. 4.

I am glad that you are glad and pleased. The button itself shows you are one of the accepted ones. I hope you will be one of the active "Merry Circleers."

Dear Uncle Frank:

One beautiful day last October I saw the funniest thing out in a little bush in our backyard. I called mamma. She picked it and hung it on the lace curtain. Last Sunday, March 4, it hatched into a great big butterfly. It was all colors of the rainbow. Its wings measured seven inches from tip to tip. Its body is one inch long, and it has eight little feet. When it was four days old it started laying eggs and it has been laying ever since. I will tell you more about it next time.

I will shut my chatterbox now. Bye-bye.—Your niece, Ersyl Bentley, Linden, Mich., R. 2.

That's some butterfly. I wonder what it came from? It must be interesting to watch it.

Dear Uncle Frank:

I agree with Goldie Kleinhart about the room. It is not pleasant to be rubbing elbows with Holsteins, separators and barn paint.

Harold Coles need not think that he settled the question. The girls in our school can beat the boys playing base ball or foot ball, and we are just as strong, or stronger, than some of the boys. There is only one boy in school that is larger than I am.

Harold thinks it's wrong for girls to wear knickers. I am not ashamed to. If I have to work like a boy, why not dress like one? Boys don't have to have long-hair to make their heads ache when they work in the fields. I have seen more than one boy powder. The mothers of our greatest men were girls once upon a time. George Washington's mother taught him all his high ideals and showed him how to love and trust in God. Abraham Lincoln, my favorite, was very much influenced by his mother, although she died when he was quite young. Nearly all children will take their childish troubles and joys to mother. "What is home without a mother?"

Well, I will close and quit giving it to the boys. You sure were sweet when you were little. If you look like that now, I'll bet I would like to see you. Good-bye and good luck. As ever, a backer of the girls, Gladys Clark, Deford, Mich.

Holsteins and separators are all right and so is barn paint. But be careful of it when it is wet; otherwise you may get a red mark. I like the way you stand up for mothers. I don't look as sweet now. But thanks for the compliments, just the same.

Dear Uncle Frank:

Can I join your club for girls and boys? I read the letters every week and think they are so nice.

I am eight years old and four feet four inches tall. I have blue eyes and long, heavy hair. It is twenty-three inches long and real light color. I am the only girl in our room with long hair, and my teacher and the girls all make a fuss about it. I am glad I didn't want my hair cut last summer. I wasn't in style, but I am this summer.

Now, Uncle Frank, I wrote this letter while in school, so if it isn't good, please excuse it for me.—Your niece, Agnes MacLane, Jenison, Mich.

Another long-haired niece. I am glad you are proud of it. I think some look good with bobbed hair and others do not. You certainly can join us.

Dear Uncle Frank:

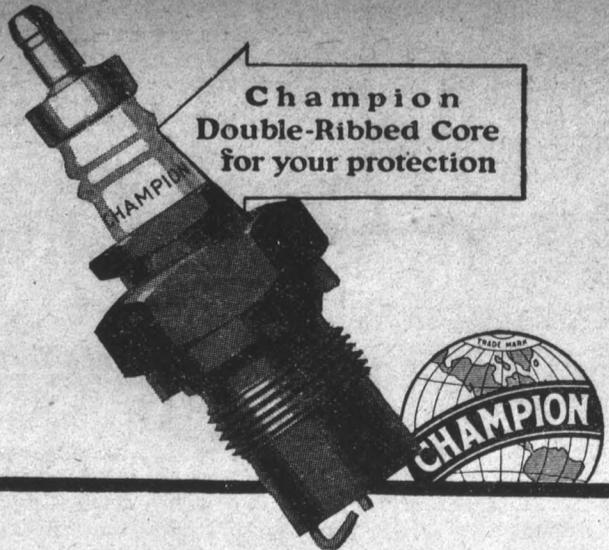
I live on a farm. I love it. Say, I agree with Harold Coles that girls should not wear knickers. He certainly is right.

Say, put this in your paper. My, your picture is cute. Why can't we have contests once a week? Let's have a motto.

I must make a parting shot against knickers and bobbed hair, so will sign myself, old-fashioned girl, Rose (Rosalind) Batterbee, Mancelona, Mich.

We can have contests every week if most of the boys and girls want them. Many have written, though, that they like them better every other week.

Says Sam: When the boys begin to ask can they have the buggy to-night, that's another sign of spring.



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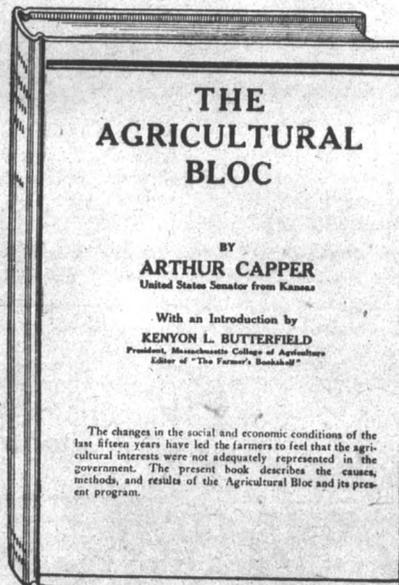
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Dairy Farming

Dry Cows Need Minerals

Joe Alexander Tells How Dairymen Lose Money by Stinting the Dry Cow's Feed Supplies

WHY does the common view that dry cows need only enough feed for maintenance still persist in the face of common sense, dairy profit and scientific fact? Dairymen themselves have found that heavy and persistent production, as well as profitable milk checks, are the reward of correct and ample feeding of the dry cow.

A dairy cow is nothing more nor less than a milk-manufacturing plant. Like any factory, she must have a reserve supply of materials on hand to draw upon when heavy demands are made. A cow that has been well fed while dry has stored up this reserve. She, therefore, is able to produce more on full feed than a cow that has re-

calf. It is essential, therefore, that cows be well fed when they are running down in milk flow and while they are dry, thus permitting them to store up in their bodies these elements as well as many others against the time when the greatest demand is made.

Remember, the well-fed dry cow takes on weight to replace that lost during the milking period just past. To do this, and nourish the unborn calf at the same time, requires a full and well chosen ration, not a straw stack or dry pasture diet. Moreover, the well-fed dry cow will go through calving without difficulty, will deliver a healthy calf with a lusty appetite, and will then hit her milking stride without showing a set-back due to



The officers and members of the Association of Michigan Cow-testers are as follows, reading from left to right:

Front Row—B. L. Peck; Harold J. Schaner; S. P. Sexton, director; Roy Chilberg; Eldon Bruce; Karl S. King; Nicholas Gordon; J. H. Mathiesen, secretary-treasurer; H. F. Simmons.

Middle Row—Ernest Johnson; H. E. Frank; Leslie Wilcox; Fred Leonard, vice-president; Hans Kardel; Oscar Sundell; Hoyt Shisler, president; Eldon Barclay.

Back Row—Percy Parkyn; R. G. Powell; Paul Hayward; L. J. Carter, director; Jesse Huggett; L. D. Leisenring; Fred Walker.

Testers Absent—Herman Berg; W. C. Gale; Carl Hornung; B. C. Mellen-camp; M. S. Thomas.

ceived only a maintenance ration during the resting period.

Short rationing dairy cows during the dry period is false economy—economy that is sure to "back-fire." Why? Simply because the elements withdrawn from the underfed body to supply the needs of the unborn calf must be replaced when the cow comes "fresh" and is placed upon a heavier ration. She, therefore, does not "hit her milking stride" until she is once more back in good physical condition. During this period, whether it be long or short, her owner is paying the price for his economy (?) in the reduced yield she is able to produce.

Let us briefly consider the mineral requirements of a dairy cow during the last month or six weeks of the gestation period while she is dry. Though lime and phosphorus are found in comparatively small quantities in feeds, these minerals have a great deal to do with milk production and also play an important part in building up the body of the unborn calf. If the ration fed to dry cows is deficient in these elements, they are then drawn from the supply stored in the bodies of the cows themselves. This also takes place in the height of the milking period, but if permitted to continue for more than a very short time, the animal is certain to suffer a loss of flesh and physical condition.

Likewise, when a dry cow is fed a short, or incomplete, ration deficient in lime and phosphorus, she becomes run down in flesh and vitality, often giving birth with extreme difficulty to a small, undernourished, thriftless

calving troubles or to her impoverish-ed body as would be the case with the thin cow that has suffered from the owner's feed economy.

In keeping up the necessary lime and phosphorus supply it is well to remember that some feeds are richer than others in these elements. Legume hays are the best and cheapest source of lime. Cowpeas, alfalfa, soybeans and the numerous clovers are included under this head, and are listed in the order of their lime richness. Quality of hay has much to do with the amount of lime found therein, good leafy alfalfa hay containing more than coarse, stemmy hay.

Phosphorus is derived mainly from wheat bran, cottonseed meal, standard wheat middlings and linseed meal in the order given. Other feeds rich in phosphorus, but less widely known and used for dairy feed, are sesame oil cake, rice polish, buckwheat middlings, rice bran, sunflowerseed cake, rape-seed cake, buckwheat bran, and malt sprouts.

No bran or other concentrate contains anywhere near so much lime as do the legume hays; no kind of roughage contains so much phosphorus as is found in the concentrates mentioned above. Grass hays, corn silage and all other corn products with the possible exception of those made from the corn germ are low in both lime and phosphorus. Keep these facts well in mind when mapping out the rations for dry cows—then feed so that no cow is compelled to "hit on three cylinders" and is cussed when she fails to produce.

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STIMULATING THE APPETITE.

DAIRY cows to produce profitably and economically, must consume their feed regularly and in such amounts as to encourage them to build up strong assimilative systems. Loss of appetite is commonly the result of feeding too large a ration, unclean grain, or moldy roughage, or feeding a too narrow ration without a change of feed. Among dairy cows, loss of appetite is a serious matter as it lessens production and impairs the working capacity of the animals.

My experience has proven to me that some cows are more susceptible to loss of appetite than others. Cows of this type should be gradually eliminated from the herd. However, the dairyman should learn to recognize the approach of this trouble and be continuously on the alert to avoid such conditions that would likely cause it. It is a great deal easier and more profitable to avert loss of appetite among members of the herd than to correct the trouble after it once occurs.

The ration should have as much variety as possible. Change of feed stimulates appetite and encourages the cows to increase production. Clean, sweet roughage and grain should be fed and nothing else. I find that wheat bran in the ration is a wonderful appetite stimulant and keeps the digestive system in active working condition. I like to change my roughage feed as often as possible. Salt is essential and should be kept constantly before the cows, either in the yard or stable.—Leo C. Reynolds.

CLOVER INCREASES MILK FLOW.

I FIND that by feeding clover hay once or twice daily the milk yield is remarkably increased, the appetite stimulated and the assimilative system kept in active working condition. Feeding too much roughage of the same kind, either ensilage, or dry corn stover, has a tendency to impair the appetite, lower consumption and subsequently curtail production. I find that variety is an essential factor in the ration of the dairy cow to encourage maximum results.—L.

MILKING BEFORE CALVING.

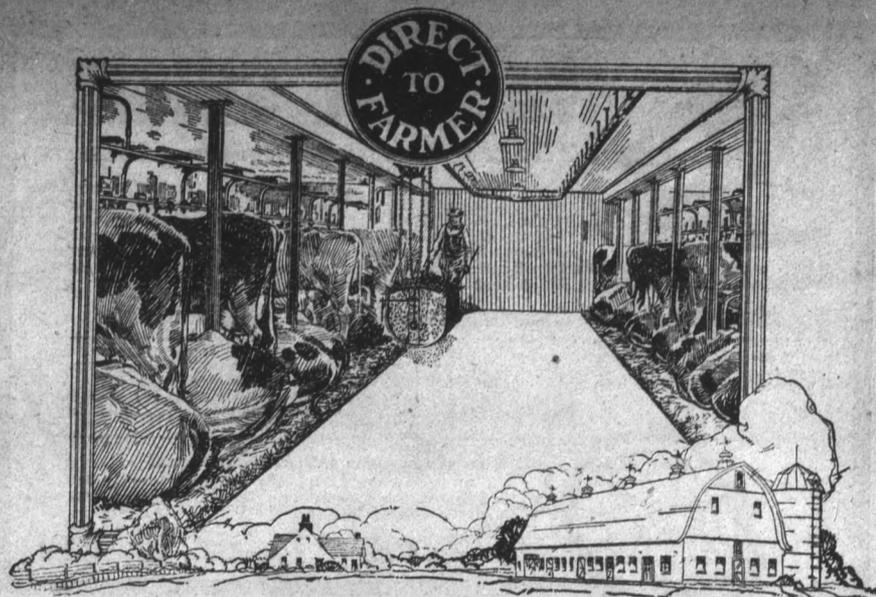
I DO not believe, as a rule, it is a good practice to milk a cow before freshening. However, if the udder is badly distended, causing marked inflammation, some of the milk should be drawn before the cow calves. Heavy milking cows have large distended udders, which may be eased somewhat by drawing a little of the milk, but I do not think it advisable to milk cows where it can be avoided.

As soon as a cow freshens I like to milk out just enough milk to ease the udder. By leaving a portion of the milk in the udder for three or four days the danger from milk fever is much lessened, and the inflammation goes down gradually. Heavy milking cows should be milked three to four times a day for the first week, or two, after calving.—R. C.

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By L. W. Silverthorn

RAISING ninety-nine chicks out of every hundred may seem a little incredible to those who have been less fortunate, or, as someone has expressed it, "fishy." Now, it is not so much a matter of luck or good fortune as it is the result of careful study and pains-taking in the most petty detail, which exists in the poultry business as well as in any other business. The writer believes that anything worth doing is worth doing well; and to do a thing well one must not omit even the slightest detail.

It is to be said, of course, that, in order to insure the minimum loss,

three days to insure their drinking the maximum quantity of the milk. Sour skim-milk is found to be the best. Best results are obtained from sour milk by feeding it at an even consistency; to do this some feed only the curd.

Huddling of the chicks results in many losses. Wire screen fastened in a semi-circle in the corners of their house will help to prevent huddling; but if the proper amount of heat is supplied but little loss will be experienced from this.

At first the chicks are given commercial chick-feed, oatmeal, and wheat screenings. This comprises most of the grain ration for the first two or three weeks; then a little mash is added. A very small quantity of mash is given at first, on plates, or pans, once or twice each day. It is then gradually increased, and at the end of a week is kept before them at all times, preferably in a self-feeder. This consists of equal parts of wheat bran and middlings. Finely cracked corn can now be added with good results. Cooked feeds are avoided as much as possible; yet corn-cake has been fed with no had results.

One thing that is commonly overlooked in the ration is grit. The lack of grit has been the cause of great losses. A small pile of gravel is dumped where our chicks have access to it the very first day. If you will watch them you will discover that they need no one to teach them what it is for; hence its absolute necessity.

Comfortable quarters—only a shed in our case—must be provided, and this, of course, must be kept clean and well ventilated. Plenty of light must be supplied. There must be plenty of room for exercise. Chaff should be kept on the floor for them to scratch in. Fresh, clean water is kept in the fountains at all times. Sour milk is supplied when available. A supply of mash should be kept in the feeder, and other grains should be fed regularly each day.

With this ration and proper care, a ninety-nine per cent survival is not uncommon; thus, the chicks can be made to weigh between two and three pounds at broiler age; and the pullets will mature rapidly to early winter-layers.

The petty details differ with almost every individual case, and offer splendid opportunities for study.



Sturdy Chicks Well Cared for Make a Good Start.

only husky, vigorous chicks are to be considered. If chicks are bought, care should be taken to get pure-breds. Most hatcheries send out only their best chicks. If one does one's own hatching—vigorous chicks can be secured by carefully selecting eggs, for the hatch, from perfectly healthy flocks.

The first, and an essential step to be taken against the prevalent diseases among baby chicks is to get them to drinking sour milk; this can be done by dipping the bill of each one into the milk. Care should be taken to see that each one gets a taste of the milk; after that they will not bother to take less than they want. This is the first thing we do when the chicks are received; and chicks hatched at home are given milk before receiving any feed. Water is omitted from the ration for the first two or

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When the hens start to lay I locate the nest, if possible, remove the eggs to prevent chill, and place a few hen's eggs in the nest to keep the turkey from leaving. When she starts to set I give her what eggs she can cover nicely. The rest I place under hens, on the ground if possible. As soon as they begin to hatch I give all of the little ones to the mother turkey.

We make a pen, just something the little ones can't jump over for a couple of weeks, and keep them shut up, only letting them out a little through the day. I always see that they are shut up in the morning until after the dew is off, until they are a few weeks old.

When they get so they wander beyond my call we always go after them at night and bring them home. They will soon get so they will come up themselves. Turkeys have queer habits, usually they always have one roote they travel every day.

They start to hunt for themselves when they are about six weeks old or in the red. Then they can be trained to go any particular way if a little pains is taken with them.

Feeding is a very important thing in raising turkeys. More turkeys are lost from over-feeding than any other way. I always feed them as early in the morning as possible for that keeps them from wandering early in the wet grass. They will usually wait for their breakfast if it comes regular.

I have had the best success feeding rolled oats. Just what they can clean up three or four times a day for the first couple of weeks. Also bread and milk with red pepper and plenty of

(Continued on page 438).

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 7. Because our many repeat orders from satisfied customers prove our ability in producing high quality chicks.
 8. Because the hundreds of unsolicited letters in our files prove the high distinction in chick culture which we enjoy.
 9. Because our membership in the Michigan Chick Association assures our customers of honest business dealings, and chicks as represented in all our advertisement.
 10. Because we stand back of every transaction with our ironclad guarantee.
- Get our prices and catalog before you buy. It's free. We can save you money. Breeders of bred to lay Leghorns, Anconas and Barred Rocks.



4 1/2 Months Old and Laying

RIVERVIEW POULTRY FARM, Route 2M, Zeeland, Mich.

BABY CHICKS



From selected, heavy laying, vigorous hens. English and American White Leghorns, Brown Leghorns, Anconas, Barred Rocks. Our flocks are culled by expert poultrymen and are mated to large, vigorous, pedigreed males. All on free range and housed in well-ventilated and correctly constructed poultry houses. Well hatched in modern machines. All orders are correctly and carefully packed and shipped and have our personal attention. Postpaid. Full live arrival guaranteed. Bank reference and this guarantee make you perfectly safe in ordering from us. Get them when you want them. We want your business. Prices right. Catalog free.

WINSTROM POULTRY FARM & HATCHERY
BOX H-6, ZEELAND, MICHIGAN

Science Finds Way To Stop White Diarrhea

New Discovery Makes It Easy to Raise All Your Chicks. Chicks Keep Healthy—Make More Money

Through the use of a recent discovery, the dreaded disease, White Diarrhea in chickens, can now be completely controlled. You can raise all your chicks, keep them healthy and vigorous and double your profits.



Mr. Connelly, State Line, Wisconsin, says: "Your wonderful discovery is the best White Diarrhea medicine I have ever used. It is the quickest to stop the disease and absolutely prevents it from starting. Hick's White Diarrhea Tablets are helping me raise more and better chicks than ever. It is so easy to give."

Simply dissolve one tablet in a quart of water. The chicks drink it eagerly and even droopy and lifeless chicks quickly go chirping about full of pep. Cannot injure the youngest or weakest chick.

Send No Money—Just your name and address. A card will do. Mr. Hick is so confident that Hick's White Diarrhea Tablets will save your chicks that he will send you two large double strength \$1.00 packages for the price of one. When they arrive pay postman only \$1.00 and postage. Sell one to your neighbor and get yours free. If you are not absolutely satisfied after 30 days' trial, your money will be refunded. Do not hesitate to accept this offer as it is guaranteed by two big Chicago banks, who say that Mr. Hick will do exactly as he agrees without question or argument. Write today before this remarkable trial offer is withdrawn. Address:

CHAS. M. HICK AND COMPANY,
Dept. 817, 1018 So. Wabash Ave.,
Chicago, Illinois.

\$13²⁵ Don't take any chances—find out what an incubator is made of before you buy. Wisconsin are made of Genuine California Redwood. We give 30 Days' Trial 10-year guarantee. This famous 140-Egg incubator only \$13.25. With Hot Air Brooder both only **\$17.75**

140 EGG **WHY PAY MORE 30 DAYS TRIAL**

180 Egg Size \$15.75, with Brooder \$22.00
250 Egg Size \$22.75, with Brooder \$31.00

Incubators have double walls, air space between, double glass doors, hot water, copper tanks, self-regulating. Shipped complete with thermometers, egg tester, lamps, etc. Set up ready to run. Order direct or send for our new 1923 catalog, free—postpaid.

Wisconsin Incubator Co. **MONEY BACK IF NOT SATISFIED**
Box 116 Racine, Wis.

Make More Money In POULTRY

Made to Hatch

Wherever Columbus Incubators are used the poultry business is highly profitable. A free book will be sent giving complete description of incubator construction, also illustrating other useful appliances—Brooders, Fountains, Feeders and many other necessary articles. All supplied through your local dealer. A postal will do. Write us.

THE BETTER PRODUCTS CO.
Sales Office — Box 343, Burlington, Wis.

140 EGG Incubator Only \$13⁸⁵

Made of California Redwood, covered with galvanized iron, double walls, air space between, built to last for years; deep chick nursery, hot water heat, copper tanks. Shipped complete, set up, ready to run, freight paid.

140 EGG INCUBATOR WITH BROODER \$19.75
260 EGG INCUBATOR, ALONE, ONLY 23.50
260 EGG INCUBATOR, WITH BROODER \$23.90
30 days' trial—money back if not O. K.—FREE Catalog
Ironclad Incubator Co., Box 91 Racine, Wis.

\$13⁹⁵ Buys 140-Egg Champion Belle City Incubator

Hot-Water, Copper Tank, Double Walls Fibre Board, Self Regulated. \$5.95 buys 140-Egg Chick Hot Water Brooder. Or both for only **\$18⁹⁵**

\$21.95 Buys 230-Egg Incubator
\$ 9.95 Buys 230-Chick Brooder
Both When Ordered Together, Only **\$29.95**

Express Prepaid
East of Rockies and Allowed West Guaranteed. Order now. Share in my \$1,000 in Profits, or write for Free Book "Hatching Facts." It tells everything! Jim Rohan, Pres.

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

POULTRY, PIGEONS and BABY CHICKS for PROFIT Foy's big book—an Encyclopedia of Poultry information. Many colored plates. Written by a man who knows. Low prices on Incubators, Brooders, Baby Chicks, Fowls and Eggs for Hatching. Write. Sent for 5 cents. **FRANK FOY** Box 109, Clinton, Iowa

POULTRY QUALITY CHICKS AT LIVE AND LET LIVE PRICES \$10. PER 100 AND UP

From Excellent Paying, Heavy Laying flocks on unlimited range. Well-Hatched. Sturdy Healthy Chicks in following varieties: Tom Barron English White Leghorns, 50, \$7.; 100, \$13.00 + \$00, \$22.50. Park's Barred Rocks and Rhode Island Reds, 50, \$8.; 100, \$15.; 500, \$72.50. From Extra Select flocks headed by Mich. Ag. College cockerels (Dams records from 230 to 270.) W. Leghorns, 50, \$8.; 100, \$15.; 500, \$72.50. Rocks and Reds, 50, \$9.; 100, \$17.; 500, \$82.50. Delivered Right to Your Door By Insured Parcel Post. 100% live delivery guaranteed. Order Now and from this ad as many were disappointed last year. Profitable Catalog Free. Bank Reference. **Lakeview Poultry Farm, Route 8, Box 8, Holland, Mich.**

Rosewood Farm Healthy, Hardy Chicks

Well-hatched, carefully packed, and shipped. Select, heavy laying WHITE LEGHORNS, 50, \$7.; 100, \$13.; 500, \$62.50; 1000, \$120. Select ANCONAS, 50, \$7.50; 100, \$14.; 500, \$67.50. Select BARRED ROCKS, 50, \$8.50; 100, \$16.50; 500, \$80. Postpaid, full live delivery guaranteed. Our Chicks will render you the best of satisfaction and you will COME BACK TO US. We have had long experience in producing good Chicks and our flocks are second to none. Circular free.

STAR HATCHERY BABY CHICKS

From Select, Vigorous, Approved, Heavy Laying Breeding stock. White & Brown Leghorns & Anconas, 50, \$7.; 100, \$14.; 500, \$65.; 1000, \$125 Single Comb Reds, 50, \$8.; 100, \$16.; 500, \$75. Hatched by modern methods in best machines under our personal supervision. Carefully packed and sent Postpaid and 100% live delivery guaranteed. Bank reference. You take no chances in ordering STAR BABY CHICKS. Place your order now and get them when you want them. **Star Hatchery, Box O, Holland, Michigan**

WASHTENAW HATCHERY CHICK PRICES:

following hatches: March 28th and following hatches: Barred Rocks and Reds, 50, \$8.50; 100, \$16.; 500, \$75. White Rocks, White Wyandottes, 50, \$9.50; 100, \$18.; 500, \$85. White, Brown, and Buff Leghorns 50, \$7.50; 100, \$14.; 500, \$65. Postpaid, full live delivery guaranteed. Our flocks are carefully selected and bred for high egg production. Order from this ad. Reference, Farmer's & Mechanic's Bank.

WASHTENAW HATCHERY, Ann Arbor, Mich.

TIMMER'S HATCHERY

Hardy, healthy Chicks from selected heavy laying flocks. W. & B. Leghorns, 50, \$7.; 100, \$13.; 500, \$62.50. Anconas, 50, \$7.50; 100, \$14.; 500, \$67.50. Barred Rocks and Reds, 50, \$8.50; 100, \$16.50; 500, \$80. Postpaid, full live delivery. Bank Reference. Free Catalog.

TIMMER'S HATCHERY, Route 3B, Holland, Michigan

Big Value Baby Chicks

Are Guaranteed to Live. 12 popular breeds—easy to raise, husky, healthy, vigorous. Write today for free catalog showing many breeds in full colors.

OHLS POULTRY YARDS and HATCHERY

Box G, Marion, Ohio

Good Chicks--Fair Prices

Barron Type W. Leg. B. Rocks, S. O. Reds. Pedigreed Chicks from M. A. C. cockerel mating. Utility grade from pure-bred, heavy-laying, free range inspected flocks. Pullets laid at 4 mos., 20 days last year. Guaranteed delivery. Big discount on March orders. Instructive catalog. Bank Ref.

MICHIGAN HATCHERY & FARMS, Box C, Holland, Mich

Baby Chicks

Barred Rocks, R. C. Rhode Island Reds, Anconas, and White Leghorns. Chicks that grow fast, mature quickly and lay early. Our prices are exceptionally low. Write for catalogue and price list.

THE DUNDEE HATCHERY, Box A, Dundee, Mich.

Pure Blooded Baby Chicks

Poultry Foods and Everything Necessary for Poultry Raising. Write for free catalog and price.

Monarch Sales Co., Marion, Ohio — Home of the President

TURKEYS FOR PROFIT.

(Continued from page 436). curd with red peppepr sprinkled over it. Give plenty of fresh water and milk. I always keep ashes where they can dust in them and it is surprising to see how the young ones will run for the ashes as soon as they come up at night. I also sprinkle oyster shells on the ashes.

I am never bothered much with lice but am always on the alert. When a turkey shows any symptom I grease their heads at once with turpentine, lard and some good powder.

Turkeys are like everything else. If one expects a nice profit, he must expect to do some work, but I have always felt fully repaid for all my troubles when the holiday season comes and I have a nice bunch of fat, sleek, birds for the market.

Farmers troubled with grasshoppers can make no better investment than a nice flock of turkeys.—E. M. S.

DUCK RAISING POINTERS.

IN selling duck eggs never wash them, no matter how dirty they are. It takes twenty-eight days for hatching. Don't feed the young ducks until they are forty-eight hours old.

For the first three weeks feed them separator, or skim-milk and bread. Then the next three weeks give them corn bread and milk. Just mix the meal with water and bake it. If it is hard, be sure to soak it well before feeding.

When they are about six or eight weeks old feed them a mixed ration of one-fourth coarse corn meal, one-fourth ground oats and one-half bran. Mix with milk or water. Keep a dish of water handy for them at all times. Have the water deep enough so they can get in it over their eyes. Never feed a young duck hard corn. Give them plenty of gravel.

When they are about four months old they begin to throw their feathers. Then you can pick them. You can pick them two or three times before cold weather sets in.

I have the White Pekin ducks which have dressed five pounds when they were five months old. I have had good luck raising ducks. The above is my method of raising them.—Charles H. McCord.

SALT FOR DUCKLINGS.

WILL you please let E. B., of the issue of February 17, know that if she puts salt in her ducklings' feed she will not have so many die. If any should get to going over backwards, if she will put a pinch of salt on a little bread and place it in their mouths, it will usually liven them up all right. I raised sixty-five last summer and the most I lost was through accidents.—Farmer's Wife.

SCALY LEG MITES.

My last year's chickens have heavy scale and wart-like bunches on their legs. Is it contagious or dangerous? What treatment should I use? I dipped them in kerosene and applied fresh lard once.—F. J. L.

The scaly condition of the legs is caused by a parasite which lives beneath the scales. The accumulation of crusty material is thrown off by the parasites. Washing the legs in warm soapy water helps to remove crusts and expose the parasites. Then rub the legs with a mixture of two-thirds glycerine and one-third carbolic acid. Sometimes a cure can be made by using either kerosene oil or one of the commercial coal tar disinfectants. I would try the kerosene again after washing away as much as possible of the crusty accumulations with hot, soapy water.

White Diarrhea

Remarkable Experience of Mrs. C.M. Bradshaw in Preventing White Diarrhea

The following letter will no doubt be of utmost interest to poultry raisers who have had serious losses from White Diarrhea. We will let Mrs. Bradshaw tell of her experience in her own words:

"Gentlemen: I see reports of so many losing their little chicks with White Diarrhea, so thought I would tell my experience. I used to lose a great many from this cause, tried many remedies and was about discouraged. As a last resort I sent to the Walker Remedy Co., Dept. 507, Waterloo, Iowa, for their Walko White Diarrhea Remedy. I used two 50c packages, raised 300 White Wyandottes and never lost one or had one sick after giving the medicine, and my chickens are larger and healthier than ever before. I have found this company thoroughly reliable and always get the remedy by return mail.—Mrs. C. M. Bradshaw, Beaconsfield, Iowa."

Cause of White Diarrhea

White Diarrhea is caused by the Bacillus Bacterium Pullorum. This germ is transmitted to the baby chick through the yolk of the newly hatched egg. Readers are warned to beware of White Diarrhea. Don't wait until it kills half your chicks. Take the "stitch in time that saves nine." Remember, there is scarcely a hatch without some infected chicks. Don't let these few infect your entire flock. Prevent it. Give Walko in all drinking water for the first two weeks and you won't lose one chick where you lost hundreds before. These letters prove it:

Never Lost a Single Chick

Mrs. L. L. Tam, Burnetts Creek, Ind., writes: "I have lost my share of chicks from White Diarrhea. Finally I sent for two packages of Walko. I raised over 500 chicks and I never lost a single chick from White Diarrhea. Walko not only prevents White Diarrhea, but it gives the chicks strength and vigor; they develop quicker and feather earlier."

Never Lost One After First Dose

Mrs. Ethel Rhoades, Shenandoah, Iowa, writes: "My first incubator chicks, when but a few days old, began to die by the dozens with White Diarrhea. I tried different remedies and was about discouraged with the chicken business. Finally I sent to the Walker Remedy Co., Waterloo, Iowa, for a box of their Walko White Diarrhea Remedy. It's just the only thing for this terrible disease. We raised 700 thrifty, healthy chicks and never lost a single chick after the first dose."

You Run No Risk

We will send Walko White Diarrhea Remedy entirely at our risk—postage prepaid—so you can see for yourself what a wonder-working remedy it is for White Diarrhea in baby chicks. So you can prove—as thousands have proven—that it will stop your losses and double, treble, even quadruple your profits. Send 50c for package of Walko—give it in all drinking water for the first two weeks and watch results. You'll find you won't lose one chick where you lost hundreds before. It's a positive fact. We guarantee it. The Leavitt & Johnson National Bank, the oldest and strongest bank in Waterloo, Iowa, stands back of this guarantee. You run no risk. If you don't find it the greatest little chick saver you ever used, your money will be instantly refunded.

WALKER REMEDY CO., Dept. 507, Waterloo, Iowa.

Send me the [] 50c regular size (or [] \$1 economical large size) package of Walko White Diarrhea Remedy to try at your risk. Send it on your positive guarantee to instantly refund my money if not satisfied in every way. I am enclosing 50c (or \$1.00). (P. O. money order, check or currency acceptable.)

Name
Town
State R. F. D.

Mark (X) in square indicating size package wanted. Large package contains nearly three times as much as small. No war tax.

THE EGG-LAYING CONTEST.

DURING the week ending March 13, the Leghorns again became leaders of the contest. The pen which belongs to E. E. Shaw, at South Haven, passed the Wyandotte pen belonging to the Evergreen Poultry Farm, of Greenville. Shaw's pen now shows a total of 790 eggs, while that of the Evergreen Poultry Farm shows a production of 767. It is apparent that the Wyandottes are taking a rest after holding the high record for winter production.

The third highest pen in the contest during that week was the Plymouth Rocks belonging to Brummer's Poultry Farm, Holland, Michigan. It has a total production of 702 eggs. The Plymouth Rocks also hold fourth place. Those belonging to H. E. Dennison, of East Lansing, showing the production of 765 eggs.

In the Wyandotte class, the next highest pen to that of the Evergreen Poultry Farm is that belonging to W. F. Sinks, of Farmington. It has a production of 582 eggs.

Among the Anconas, the pen belonging to A. R. Van Raalte, of Zeeland, stands high with a total production of 479 eggs. That belonging to E. N. Manning, of Coldwater, come second with a production of 428 eggs.

The leading Rhode Island Red pen

CHICKS

You can now send your order for Chicks in 11 breeds of the Pure Breed Practical Poultry that is making egg records in the hands of our customers on their own farms. If you own stock that is guaranteed, stock that will make you real money, send for our description and price list. All stock guaranteed 100%; post paid. We want you to try our stock this year. It is of the best practical stock you can buy.

STATE FARMS ASSOCIATION
201 Chase Block, Kalamazoo, Michigan.

Quality Chicks

Barron English White and Br. Leg. and Anconas. Strong, sturdy chicks from scientifically culled M. A. C. Inspected free range breeders. Ten years of consistent breeding for heavy egg production. Wonderful winter layers. Winners at leading shows. Buy direct from Modern 65 acre poultry farm. Shipped postpaid. 100% live arrival and absolute satisfaction guaranteed. Illustrated Cat. free. Write today. Townline Poultry Farm, Dept. M., Zeeland, R. L., Mich.

YPSIFIELD POULTRY FARM CHICKS

Are from stock carefully selected for those qualities essential to good egg production, broiler production, roaster production, or caponizing. Write for free price list.

LEONARD F. FIELD
Ypsilanti, Mich. Phone 484W.

JUST-RITE LOOK! Baby Chicks

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

NABOB HATCHERY, Dept. 15, Gambier, O.

WOLVERINE BABY CHICKS

Are chicks that satisfy. Bred for egg production 13 yrs. We hatched and shipped chicks for 12 years. This assures you success. English type white and brown Leghorns. 100% safe arrival guaranteed. Write for catalogue. It's free.

WOLVERINE HATCHERY
ZEELAND, MICH. R 2

BabyChicks

From strong sturdy stock of White and Brown Leghorns, and Barred Rocks, best strains of laying stock of money makers. 100% live arrival guaranteed. Prices reasonable. Write today for valuable catalog.

HIGHLAND FARM HATCHERY
R. 9, Holland, Mich.

Sturdy Michigan Chicks

From the largest baby chicks center in the world. White Leghorns exclusively. Get our low prices. Safe arrival guaranteed. We put all our effort into one breed. Write today. Suburban Hatchery, Zeeland, Michigan.

CHICKS 12 Leading Breeds

Free range, purebred, heavy laying flocks. Instructive catalog free. Prices right.

Ransom Farms, Box 6, Geneva, O.

belongs to L. C. Dunning, of Delton. It has produced so far 541 eggs. The Reds belonging to Mrs. E. S. Travis, of Vicksburg, come second with a production of 527 eggs.

In the Leghorn class the pen belonging to O. S. Thompson, of Allen-ville, follows that of Mr. Shaw with a production of 653 eggs. The Northland Poultry Farm's Leghorns, from Grand Rapids, come third with 643 eggs.

HOUSE FOR ONE HUNDRED HENS.

We want to keep one hundred chickens and want to build a new coop. Can you advise me how to build one for that many? Should it be more than one room? How many windows, and how high? Are cement floors good?—F. L. C.

Hens need a floor space of about four square feet per bird in medium sized flocks. So a house twenty feet wide and twenty feet deep will be all right for 100 hens. The house can all be in one section if it is only twenty feet wide, and all the birds are to run in one flock.

A general rule for open-front houses is to use one square foot of muslin to each eight square feet of floor space, and one square foot of glass to each sixteen square feet of floor space. Cement floors are the best if they are built up on about eighteen inches of sand or cinders. You can lay two inches of cement and then place strips of roofing paper over that and seal the strips. Then place the finishing layer over the paper. This keeps the soil moisture from rising into house.

I would suggest that you write the Michigan Experiment Station, at East Lansing, for the plans of the Michigan poultry house which they are distributing. This house is giving very good satisfaction. It will also pay you to visit a few poultrymen in your section and note the type of houses they are using. If you build the shed-roof type of house a height of four and one-half feet in the rear and eight feet in front will be satisfactory.

SEX OF GUINEAS.

Can you tell me how to tell a male guinea from the female?—Mrs. A. W.

The male guineas usually carry their heads higher than the hens and have a larger spike and ear lobes. The cock screeches more than the hen. The hen makes a cry which sounds like "poltrack, buckwheat or too quick." That is no done by the male. Both the cock and hen make a sound which is somewhat like "che or tck."

PROBABLY POISONING.

What is good for chickens that get something wrong with their heads, and act top-heavy a few days, and then die?—H. M. I.

The symptoms indicate some form of poisoning, caused by spoiled feed or other substances. It will pay you to perform a postmortem on any birds that die, to determine the condition of the internal organs. This may give some clue as to the cause of death.

Dizziness or vertigo is the result of congestion of the brain and this may be caused by poisons in the intestines, worms, or an over-fat condition. It is best treated by prevention. This means using a balanced ration, providing exercise for the hens in the scratching litter and culling out the heavy inactive birds that are most subject to such attacks.

White China geese sometimes average fifty eggs per goose. Many breeders sell their hatching eggs at around forty cents each. So it is possible to show marvelous results in paper profits on geese. However, many breeders with pure-breds who sell eggs for hatching have realized a profit per year of \$8.00 or \$10 per goose.

Pedigreed State Approved S. C. W. Leghorn CHIX American-English Strain

Are you going to buy them from a hatchery or from a BREEDER? Buy from Michigan's Largest Leghorn Farm and insure success. We hatch our own eggs only. Supply limited. Prices reasonable. Satisfaction guaranteed. Descriptive circular tells all about them. It's free.

Simon Harkema & Son, R. 1, Holland, Mich.

Hardy Northern Bred CHICKS

Barron S.C. White Leghorns, Parks' Strain Barred Rocks. The greatest egg producers known. Heavy winter layers. See record of our pen 16 now at the Michigan International Egg Laying Contest. Get Quality Chicks at Reasonable Prices from HOLLAND'S PIONEER POULTRY FARM, Catalog free. PINE BAY POULTRY FARM R 4 Holland, Mich.

BABY CHICKS of SUPERIOR QUALITY

From 12 select heavy laying varieties of Standardbred poultry, free range and Hogan tested. \$12 per 100 up. Full value for your money. Shipped by prepaid parcel post and 100% live delivery guaranteed. Send for free catalogue and prices.

Bowling Green Hatchery & Breeding Co. Box 115M. Bowling Green, Ohio

Pioneer BABY CHICKS

Bargain Prices from our Superior Egg Breeds English White Leghorns & Barred Rocks. Vigorous, healthy, early maturing chick from our leading strains will start you right in the poultry business. Order now—for early deliveries, valuable catalog free. Write tonight.

PIONEER POULTRY FARM & HATCHERY, Box A, R. 10, Holland, Mich.

OTTAWA

Chicks & Pullets

From our Strong, Vigorous "SUPERIOR QUALITY" S. C. Anconas, White and Brown Leghorns. Safe arrival guaranteed. Our 10th season. Get our low prices. Catalog free.

OTTAWA HATCHERY & POULTRY FARM Holland, R-10 Michigan

Baby Chicks \$12.00 per 100 and up

Hatching eggs, \$1.50 per setting to \$35.00 per 100. We are listing 17 varieties of pure bred fowls; Chickens, Geese, Ducks & Guinea, also breeding stock. Send for prices and circular. Booking now for early delivery.

CLINTON HATCHERY & POULTRY FARMS, Wilmington, Ohio.

LOOK Baby \$10-100

All pure bred varieties. Postpaid. Also low prices on Pullets, Turkeys, Ducks, Geese, Brooders, Supplies Etc. Big catalog mailed FREE. Address

JAS. W. HOUCK & CO., B. X 63 Tiffin, Ohio

Guaranteed Chicks: S.C. Tom Barron Eng. Brown Leghorns, Shepherd's Anconas, 12c each.

We have class A flocks therefore we sell no class B but Class A chicks. We sell the best chicks money can buy. 100% safe delivery. Postpaid. Catalog free.

ROB HATCHERY, R. 2M, Zeeland, Mich.

PREPARED WHITE LEGHORNS

Lay 205 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, 934 Union, Grand Rapids, Mich.

BABY CHICKS

We hatch leading varieties of Standard-Bred vigorous, heavy laying stock. Postage paid. Live arrival guaranteed. Send for our prices, open dates and large illustrated catalogue free. Write today.

Superior Poultry Co. Box MF, Windsor, Mo.

Buff Orpington Eggs

From healthy, even color, heavy type. \$1.50 per 15 eggs prepaid. Jonesville, Mich.

ROY SALWAY

CHICKS from good selected heavy laying flocks of S. C. Buff Leghorns.

We keep just the one breed. Write for circular. Willard Webster, Bath, Mich.

RHODE ISLAND WHITES

win over all breeds at the egg laying contest. 30 eggs \$5; 50 \$8; 100 \$15 order from this ad. Some chicks H. H. JUMP, 175 Prospect Blvd., Jackson, Mich.

White Leghorn BABY CHICKS of superior quality.

from our own breeding pens exclusively. Safe arrival guaranteed. Circular free.

THE MARION HATCHERY, R. 6, Marion, Ohio

BARRED PLYMOUTH ROCK

Hatching Eggs, full blood. \$2.00 per 15. Post paid. J. A. BARNUM, Union City, Mich.

R. C. Br. Leghorn eggs \$1.50 per 15. \$8.00 per 100. W. Chinese goose eggs 40c each. Pekin duck \$1.50 for 8. Mrs. Claudia Betts, Hillsdale, Mich.

S. C. B. Minorcas. Pen 1, wonderful pen, eggs \$5 per setting. Pen 2, almost as good, eggs \$4 per setting. Satisfaction guaranteed. R. W. Mills, Saline, Mich.

CHICKS. Sturdiest, healthiest chicks. Hatched from heavy laying and culled flocks. English strain White Leghorn. Write for prices. Brovers Poultry Farm and Hatchery, Hamilton, Mich., R. 1.

Karsten's Quality Chicks FARM

that will lay and pay. The FAMOUS BARRON STRAIN ENGLISH WHITE LEGHORNS, ANCONAS AND BROWN LEGHORNS QUALITY BABY CHICKS can now be purchased direct from Karsten's Farm and at prices unheard of before. Send for catalog and instructions on care and feeding of poultry for profit.—it's free.

Karsten's Farm, Box 101, Zeeland, Mich.

HIGHEST QUALITY CHICKS

Michigan's Old Reliable Hatchery

(The most modern and best equipped Hatchery in the state)

Pure Bred English and American S. C. W. Leghorns; S. C. Anconas; Barred Plymouth Rocks and R. I. Reds. Strong, well hatched chicks from tested Hoganized free range stock that make wonderful winter layers. Chicks sent by Insured Parcel Post Prepaid to your door. 100% live delivery guaranteed. Fifteen years of experience in producing and shipping chicks has given absolute satisfaction to thousands. Write for illustrated free catalog and price list. Get lowest price on best quality chicks before you buy.

W. VAN APPELDORN, R. 7, Holland, Mich.

BABY CHICKS

BEST PAYING, HEAVY LAYING, PURE BRED Tom Barron English White Leghorns, S. C. Rhode Island Reds, Park's Barred Rocks. STRONG HEALTHY CHICKS hatched from greatest and best incubator known. Chicks are given full twenty-one days and hatched under proper temperature.

Mr. Frank Fulkerson, Niles, Mich., writes as follows: "From the 66 pullets we raised from your stock last year along with the thirty which we had, we got 1610 eggs in December. Can you beat it?" We are the first and oldest importers of White Leghorns in this state. Watch our pen number 17 in the Michigan Egg Laying Contest. It's Coming Strong! All flocks thoroughly culled and properly mated to pure bred cockerels. Try Some Real Chicks This Year. Order Now at New Low Prices.

Instructive Catalogue Free

Brumer-Fredrickson, Poultry Farm Box 20 Holland, Mich.

Whittaker's R.I. Reds

Michigan's greatest color and egg strain. Bred from winter layers for thirteen years. Customers report flock average of 24 eggs per hen for January, 2 pound broilers at 7 weeks, 2 1/2 pound broilers at 9 weeks. Write for free catalog quoting prices on eggs and chicks. Rose and Single Combs.

INTERLAKES FARMS

Box 39, Lawrence, Mich.

STERLING POULTRY FARM AND HATCHERY
Sterling Quality
White Leghorns and Anconas. Our stock is scientifically culled by experts, assuring you strong healthy, bred to live chicks. That will live and grow. Live delivery guaranteed. Catalog free. Sterling Poultry Farm & Hatchery, Zeeland, Mich.

OTTO SUPERB CHICKS

THAT GROW AND PAY
Vigorous pure-bred flocks on free range. Send for price list on 10 popular breeds. The results of careful breeding and scientific hatching. Chicks 12c up.

OTTO CHICKERY, INC. MAGNOLIA, N. J. Box MF62

CHICKS \$10.50 AND UP

From Hogan tested hens. Wh. Br. & Buff Leghorns, 50, \$7; 100, \$13; 500, \$62.50. Bar. Rocks, Anconas, 50, \$7.50; 100, \$14; 500, \$67.50. Reds, Wh. Rocks, Minorcas, 50, \$8; 100, \$15; 500, \$72.50. Buff Orpingtons, Wh. Wyandottes, 50, \$9; 100, \$17; 500, \$82.50. Mixed, 100, \$11; 500, \$52.50. Order now. Catalog Free. Eggs for Hatching, Ref. 4 Banks, Tri-State Hatcheries Box 512, Archbold, Ohio

White Leghorn CHICKS

Heavy Laying, pure bred, English strain. Flocks culled and tested for laying ability. Strong, healthy chicks, 100 per cent live delivery guaranteed. Catalog free. Write quick.

Catalpa Grove Hatchery, Box 1, R. 2, Holland, Mich.

CHICKS THAT MAKE PROFITS.

Strong, vigorous, well hatched from leading breeds of heavy layers. Moderate prices, 100% live delivery guaranteed. Postpaid. Catalog giving full particulars free. Bank reference. BLUFFTON HATCHERY, Box M, Bluffton, Ohio.

CHICKS

We ship everywhere. Safe arrival guaranteed. 20 thoroughbred varieties. Hatched right. Member Int. Baby Chick Assn. Catalog free.

Mammoth Hatchery, R. F. D. 30, Glen Elyn, Ill.

Baby Chicks

Selected chicks from the heart of the baby-chick industry. Leading pure breeds from heavy egg producing strains. Alive delivery guaranteed. Send for catalogue and prices.

L. Van Hoven & Bro., Zeeland, Mich.

S. C. W. Leghorn Baby Chicks.

From large set produced by our own breeding pens. Price \$12 per 100. Cruse & Warner, Hudson, Mich.

Barred Rocks

Eggs and baby chicks from Silver cup winners. Eggs \$2.00 per 15 delivered by P. P. Circular free.

FRED ASTLING, Constantine, Mich.

TURKEYS.

Purebred White Holland. More \$30. Toms \$12. JOS. SCHNEIDER, Belleville, Mich.

BREEDERS' DIRECTORY

Change of Copy or Cancellations must reach us Ten Days before date of publication

Andy Adams LITCHFIELD, MICHIGAN Michigan's Leading Live Stock Auctioneer DATES and TERMS on APPLICATION



5 Grand Champions 28 FIRSTS

and other prizes. Such was the remarkable performance of our animals at the 1922 Michigan State Fair. What could be better proof of the unvarying quality of our animals or more representative of the ideal for which we have striven?

Our success can also be yours. Our young animals are the finest examples of breeding and will do much to improve your herd. Get the blood of the King of Sires EDGAR OF DALMENY into your herd and you will have individuality, distinction and quality.

The services of our Grand Champion Stallion, GEORGE HENRY are available. Your correspondence and inspection are invited. WILDWOOD FARMS ORION, MICHIGAN W. E. SCRIPPS, Prop. SIDNEY SMITH, Supt.

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

Registered Guernseys

2 Choice Heifers about a yr. old for \$300. Bull old enough for light service, out of Ester Erwin who is making a fine record \$150. J. M. Williams, No. Adams, Mich.

GUERNSEYS - REGISTERED BULL Calves. Containing blood of world champions. A. R. cows. Federal inspected. HICKS' GUERNSEY FARM, Saginaw, W.S. Mich.

Wallinwood Guernseys

Young bulls from A. R. cows for sale. F. W. WALLIN, Jenison, Mich.

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

WINNWOOD HERD Registered Holsteins



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

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

The Traverse Herd

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

TRAVERSE CITY STATE HOSPITAL Traverse City, Mich.

FOR SALE KING SEGIS BREEDING

Born Sept. 26, 1922. His dam recently completed semi-official test giving 12,475.3 pounds of milk and 449.004 pounds of butter. Average figures recently given show 3600 pounds of milk in a year for Michigan cows. You will notice that this cow shows an increase of 400%. This milk production combined with show type is a decided asset as a future herd sire.

GRAND RIVER STOCK FARMS Jackson, Mich. Corey J. Spencer, 111 E. Main St.

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

Bull adv. Jan. 27 sold to Ex-Gov. Warner. Daughters of his bred to son of largest semi record heifer in Wayne Co. Terms \$50 a year. Federal tested. M. L. McLAULIN, Redford, Mich.

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

Registered Holstein cows, heifers and heifer calves priced reasonable. Best of breeding and production. Bulls priced to sell quick. All tested and guaranteed. B. B. REAVEY, Akron, Mich.

FOR SALE Reg. Holstein Heifer, 3/4 Black, 4 weeks old at \$40.00. ARTHUR C. MOORE, Lawrence, Mich., R. 1.

For Sale Registered Holstein Bull 14 mo. old, sired by a grandson of May Echo Sylvia. Dam 17.4 lb. 3 yr. old. Price \$150. Herd under federal supervision. Eugene N. Kurtz, Grand Blanc, Mich.

HEREFORDS

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

ALLEN BROS.

616 So. West St., Kalamazoo, Mich.

HEREFORDS

Young Cows with calves by side consisting of blood from America's foremost herds at prices that enable them under Earltripe Hereford Beef Plan to pay for themselves within a year to 18 months. Bulls including prize winners at the largest shows at practical prices. Herd headed by Straight Edge 118778, one of two sons of perfect Fairfax out of a daughter of the Famous Disturber. T. F. B. Sotham & Sons, (Herefords since 1839), St. Clair, Mich.

Meadow Brook Herefords Fairfax and Disturber Breeding. Registered breeding stock for sale, both sexes, any age. Call, phone or write, Earl C. McCarty, Bad Axe, Huron Co.

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

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

Lillie Farmstead Jerseys For sale, 3 heifers bred to freshen this fall, 2 bull calves, 6 to 9 mo. old. Colon C. Lillie, Coopersville, Mich.

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

Richland Shorthorns

Special offer on several bulls at Farmers' prices. Suitable for grading up purposes where beef is required. Also several high class herd headers of the best of breeding.

C. H. Prescott & Sons,

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

Shorthorns Bidwell Revolution Jr. heads herd - Sire, Revolution, Dam, Maxwalton Rosewood 3d, 2d Dam, Imp. Rosewood 86th. Now offering one good roan two year old bull out of a Marr Marigold dam, also a few cows and heifers safe in calf. Prompt attention to correspondence - visitors welcome. State Accredited herd. One hr. from Toledo, O. N.Y.C. Ry. BIDWELL STOCK FARM, Tecumseh, Mich., Box D

CLARADALE FARM, Dual Shorthorns 3 Duchess heifers and a young Bull to mate at \$600.00 for the lot 100 \$ R of M Breeding. We can sell you a bull fit to head the best herd. Also Cows all ages, reasonably priced. F. W. JOHNSON & SONS, Ouster, Mason Co., Michigan. Drawer 26

Maplewood Milking Shorthorns For sale a few choice heifer and bull calves, from one to four months, sired by Maplewood Jeweler. HARTER & EASTON, Jenison, Mich.

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

Clayton Unit Shorthorn Breeders' Assn. Scotch, Scotch Top and Milking Shorthorns for sale all ages. W. J. Hinkle, Sec'y, Flushing, Mich.

FOR SALE Shorthorn cattle tuberculin tested. Bred Berkshire sows. SIMON G. MACHELE, R. 5, Middleville, Mich.

DOUBLE Standard Polled Shorthorns, milk strain. Bulls and Heifers all ages at farmers' prices. Paul Quack, Sault Ste. Marie, Mich.

Central Mich. Shorthorn Breeder's Assn. offer 18 young bulls and 21 females of dual purpose type. M. E. Miller, Sec'y, Greenville, Mich.

RED POLLED Bulls for sale. Cows with calves and heifers. G. A. CALHOON, R. 1, Bronson, Mich.

REGISTERED Brown Swiss Cow for sale. 6 yr. old. Bred to freshen May 10, splendid milker, T. B. Tested. Price \$150. Dewey Hartley, Kalkaska, Mich.

HOGS

"BERKSHIRES"

We have a few extra good fall boar pigs left, H. G. LORIMOR & SONS, Brighton Mich.

Duroc - Jerseys

TOPMAST SENSATION

The largest pig of his age in Michigan - stands 40 inches high at one year old. A boar whose sire was world's Junior Champion, whose grandsire was twice world's Grand Champion. Would it mean anything to you to have some of his offspring in your herd? Think it over.

LOEB FARMS

Charlevoix, Michigan "The Home of Grand Champions"

BROOKWATER DUROC JERSEYS SPRING GILTS BRED FOR MARCH AND APRIL LITTERS ALSO A FEW GOOD BOARS Herd sires: Panama Special 55th, Big Bone Giant Sensation, Brookwater Principal Col. and Brookwater Orion Sensation. All are exceptional individuals and have proven their ability to sire good ones. BROOKWATER FARM, Ann Arbor, Michigan H. W. Mumford, Owner. J. B. Andrews, Lessor.

Whitney Farms Durocs

We offer an excellent line of bred sows and gilts as well as two boars that are real sires. Priced to sell. Write for pedigrees. WHITNEY FARMS, Whitney, Mich.

Breeders' Page

By P. P. Pope

"SCOTLAND'S BURNING."

AND I thought I might have to "cast on water" when I set the brakes at the home of Findlay Brothers, over near Vassar, the other day. It proved to be only the chimney burning out, however, and soon the excitement was over. It was just dinner time when I arrived at this home, which a few minutes later impressed me as a veritable "Little Scotland," and I needs must sit up and partake. They are a very genial set; the big husky brothers themselves, the sister who keeps the house, the mother whose heart is kind and whose years are beginning to tell, and we must not leave out the little lady with the flaxen hair who teaches the school across the way.

The Scotch collie, not averse to the stranger whose motive is kind, was the first to greet us. Out at the big barn we came unexpectedly upon a force of big pure-bred Clydesdales, eight or ten of them, that furnish the required horsepower on the rich, level, well appointed two hundred acres that the farm contains.

I do not recall ever seeing such an attractive, well-conditioned, uniformly good bunch of horses on any one ordinary farm. They work and receive ordinary care but they possess quality in an unusual degree which, with sensible care keeps them easily in a healthy, thrifty, attractive condition.

Last, and I presume in the estimation of the family they stand first, come the Ayrshires. Every stanchion in the cow stable holds a real dairy cow, as clean and comfortable looking as if on the grass in June. Along with the horses their contentment and condition shows the care of real stockmen who know and love their animals. At the head of their herd stands a grandson of the winner of the purple at the last National Dairy Show, and himself a winner of fourth in class. The box stalls adjoining hold a dozen or so very attractive youngsters of both sexes that, if they go into the hands of stockmen no more than half as good as their breeders, are headed for a life of usefulness.

It is such firms as this that we take pleasure in commending before the practical business farmers of Michigan, because when they go there we are sure they will be pleased, as we were.

CHESTER WHITES AT AUCTION.

MICHIGAN'S first Chester White hog sale shows which way the wind blows. It was put over by Alexander and Bodimer, of Vassar, with John Ackerman contributing. If the prices paid are a fair criterion this section of the state is a real swine producing district, and in material prosperity leads not only Michigan but Indiana and Ohio as well. Of the many Chester White sales held throughout the country to the south and west of us this season, it is only the championship herds that have made a higher average. This sale also takes the lead in Michigan, among all breeds, even topping the Hoover sale of Poland-Chinas in this same district, which has to date stood well at the top.

An interested crowd of more than two hundred men packed the sale barn clear to the peak, standing room was at a premium, and the overflow took to the roof and looked through the windows.

Colonel Walker, of Indiana, did the selling, assisted by the local auctioneers, Atkins and McEldowney.

The Detroit Creamery Company secured a couple of the good ones, but

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

I AM OFFERING BRED SOWS

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

DUROCS - Special Sale on big fall yearlings and spring gilts, bred for spring farrow. Also fall pigs now weighing 200 lbs. All sired by or bred to State Fair winners. MICHIGANA FARM, Pavilion, Mich.

Duroc Jerseys. Bred gilts to farrow in March and April. Prices reasonable. We breed those that have size, type and quality. A few select fall boars ready for service. F. J. DROTT, Monroe, Mich.

Duroc Jerseys 12 bred gilts, also 50 registered black top sows. CAREY U. EDMOND, Hastings, Mich.

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

Duroc fall boars sired by Master Col. Walt. Bred sows and gilts. Cholera immune. JESSE BLISS & SON, Henderson, Mich.

DUROCS, ready for service and individuality, breeding, large litters, satisfaction or money back, write, B. E. KEIS, Hillsdale, Mich.

Is It Worth While?

A real boar pig sired by Woodford Sensation, Dams of Defender or Pathfinder breeding. If so, We have them of Sept. farrow, not only showing extreme quality, but greater size than you will expect to find. Follow M 29 to

Kope-Kon Farms, Coldwater, Mich.

Night Sale

40 HEAD CHESTER WHITE BRED SOWS

March 30th, 1923

Send for catalog or send bids to LEVI P. MOORE, in my care.

F. A. Fowler, Harpster, O.

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

Chester Whites, We are offering some bred sows and gilts. Prices reasonable. Weber Bros. 10 Mile and Ridge Rds, Royal Oak, Mich.

CHESTER WHITES

Boars all sold. Bred sow sale March 8th. FRED L. BODIMER, Reese, Mich.

Chester White Bred Sows for April Farrow. Pigs all ages. Best Bloodlines Shipped on approval. OSCAR FATE, Edison, Ohio.

Chester Whites boars all sold, bred gilts \$35 to \$50 C. O. D. ALBERT DORR, Clinton, Mich.

Chester Whites. Gilts bred for April and May farrow, sired by State Fair prize yearling. Fall gilts. LUCIAN HILL, Tekonsha, Mich.

O. I. C's and Chester Whites

Gilts sired by Mich. State Fair Gr. Champion 1921, and bred for March and April farrow to Mich. State Fair Jr. Champion 1922, the common sense type and price.

ANDY ADAMS, Litchfield, Mich.

O. I. C. 20 large growthy gilts farrow in Mar also fall boar pigs. CLOVER LEAF STOCK FARM, Monroe, Mich.

O. I. C's. 20 last spring gilts bred to farrow in Mar. and April, big growthy stock, recorded free. 3/4 mile west of Depot, Gitz's phone. OTTO B. SCHULZE, Nashville, Mich.

O.I.C. Big type. May gilts due Apr. 20th to May 5th weighing 300 lbs. Fall pigs either sex. Sired by Michigan Jumbo 2nd Grand Champion, Mich. State Fair '22. NEWMAN'S STOCK FARM, Mariette, Mich.

O.I.C's March boars, bred gilts, July and Aug. gilts. Young Brown Swiss Bulls. Milo H. Peterson, Elmhurst Farm, R-2 Ionia, Mich.

O. I. C's. Am offering a few fall boars and 3 gilts bred for May farrow. C. J. THOMPSON, Rockford, Mich.

RADIO GIANT

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

Leonard's Big Type P. C. gilts sired by Leonard's Liberator and Orange Clansman and fall Pigs at bargain Prices. E. R. LEONARD, St. Louis, Mich.

Saginaw Valley Herd of O. I. C. & Chester White Swine, 40 Bred Gilts, sired by C. O. Mich. Boy and Selection list, bred to Jumbo's Giant 1st, son of Grand Champion Boar at Mich. State Fair. Photos on request, John Gibson, Fosters, Mich R. 2.

Francisco Farm Poland Chinas

Spring gilts sired by a grandson of National Grand Champion Sow and bred to a grandson of National Grand Champion Boar. Now ready to ship. F. P. POPE, Mt. Pleasant, Mich.

L. T. P. C.

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

let the top of the sale stay in the community on a bid of \$177.50, by Wilber Jones, of Reese. The forty head catalogued sold for \$2,452.50, an average of \$61 each. The list of buyers follows:

Otto New, Bach; Wm. Hall, Vassar; Albert Hall, Fairgrove; M. Culbert, of Fairgrove; Claud Cole, Caro; Henry Lane, Fairgrove; Detroit Creamery Co., Mt. Clemens; Thomas Hile, Caro; Knox Young, Fairgrove; Clare Dorman, of Snover; Crapo Farm, Swartz Creek; Ray Gardner, Fairgrove; C. Sordolski, Bay City; E. Hodges, Jackson; Roy Jackson, Caro; Norris Miller, of Fairgrove; Robert Ahnes, of Reese; Harry Shapland, Saginaw; O. Wrigleyworth, Howell; Ira Vanderlip, Lapeer; Wiley Kirk, Fairgrove; J. C. Kirk, of Fairgrove; R. E. Humm, of Fairgrove; Henry Rogner, Reese; Bruce Brown, Mayville; N. Jones, Fairgrove; John Howell, Ovid; Irvin Cross, of Colling; Wilber Jones, Reese; Findlay Bros., Vassar; S. E. Lawrence, Britton; Arnold Grinnell, Bach; Julius Richards, Bay City; N. J. Neal, Unionville.

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.

Inflamed Udder.—The skin covering cow's udder is inflamed and a fluid leaks out. What shall I apply? M. A. C., Ceral, Mich.—Apply one part lysol and fifty parts water twice daily. Give her a teaspoon of nitrate of potash in drinking water three times day. Keep her udder clean.

Injured Teat.—One teat of my cow was injured by another cow trampling her. Have to use milking tube; sore in end of teat and seems to partially close between milkings. F. S., Fowlerville, Mich.—Dissolve all the boric acid water will take up, flush teat canal, then leave clean teat plug in teat between milkings.

Diarrhea.—I have derived much benefit by reading the Michigan Farmer and have a question to ask. I have a four-year-old gelding which I bought about twelve months ago; since then every week or two he has been troubled with diarrhea; this keeps him thin. Another horse has scratches, and stocks. E. B., Sand Lake, Mich.—Feed oats, add a little dry wheat bran, and select well-cured timothy hay. Give him two drams of dried powdered sulphate of iron three times a day, when his bowels act too free. Apply equal parts of oxide of zinc and boric acid to sore heels twice a day.

Bunch on Rump—Chronic Atrophy.—I have a horse which has a bunch on rump near root of tail. Have applied drugs which reduced swelling, but when I let up treatment, swelling returns. This same horse has what I call a blind sweeny. Can you give me a remedy for this ailment? J. F. S., Goodrich, Mich.—Either cut off bunch, or apply one part iodine and ten parts lard daily. Apply equal parts of turpentine and olive oil to the atrophied parts every day or two.

Ovarian Tumors.—I have two cows; one freshened in August, the other in September; both came in heat ten days after calving; had them served but neither got with calf. They have been bred regularly, but neither seem to be with calf. W. G., Howell, Mich.—You had better ask your veterinary to crush ovarian cysts; this can be done through the rectum. After this is done both might get with calf.

Shy Breeder.—I have Holstein cow six years old which calved last April. She had no trouble, came in heat early part of June and was bred, but failed to get with calf. She has been bred every three weeks since and is not in calf. P. J. C., Marine City, Mich.—Drop a cake of compressed yeast into one quart of tepid water, let stand for two hours in warm room, strain, then flush vagina. Treat her daily for a week before she is mated.

Cow Gives Bitter Milk.—I have a six-year-old cow that gives bitter milk. I feed her corn fodder, hay, ground corn, oats and bran. W. B., Baroda, Mich.—Give her a tablespoonful of bicarbonate of soda and two of powdered charcoal in feed twice or three times a day. Change her feed, exercise her daily.

Panhandle Herefords

800

Good Standard Grade Dehorned White Face Steers

Yearlings, Per Head \$38.00 Two Year Olds, Per Head \$52.00

F. O. B. LOADING STATION, TEXAS

We offer these Cattle for April Delivery

WIRE OR WRITE

R. BINDER CO.

Battle Creek, Mich.

PUBLIC AUCTION

of Registered Holstein Cows

WEDNESDAY, MARCH 28, at 1:30 p. m.

As I am overstocked and without sufficient help am obliged to reduce my milking herd at once, therefore will offer at public sale ten of my largest and very best cows. These ten are fresh or soon to freshen, and are extra large, straight cows that are very attractive. Five of them have A. R. O. records of from 20 lbs. to 26 lbs. of butter in a week, and are capable, under favorable conditions, of making much larger records. This herd has the reputation of being the best herd of its size in this section. If you want something that will improve the looks of your herd, and also pay for themselves in a very short time, come to this sale; you seldom have an opportunity to buy cows of this class at your own price. I will give 1-3 of the sale price of the cow for the calf that any of these cows are now carrying. They range in age from three to just past nine years. This is an accredited herd. Have never had one react. Sale will be held at the farm, three and one-half miles southeast of Webberville, Mich. Buyers from away will be given free transportation from Webberville to and from the farm. Good notes will be accepted. Remember the date, March 28th, at 1:30 P. M. Murry & Sobers, Auctioneers.

I. M. SHORMAN, Owner

Fowlerville, Mrch.

HOGS

Fall Pigs Either Sex Sired by HOVER'S LIBERATOR. Gilts will be bred to that first prize boar Tuscola Clansman for August and September farrow. They are as good as the breed affords. Come and see them or write. DORUS HOVER, Akron, Mich.

Big Type P. C. some very choice boars double im Dmune, out 1100 lb. sire and mammoth sows from Iowa's greatest herds, E. J. Mathewson, Burr Oak, Mich.

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

L.T.P.C. Gilts and boars all sold. Thanks to my customers for the patronage of the past. M. M. PATRICK, Gd. Ledge, Mich.

Walnut Alley Big Type P. C. gilts now ready to ship they are bred to the best boar I have seen this fall. A. D. GREGORY, R. 3, Ionia, Mich.

L. T. Poland Chinas spring boars and bred sows at reasonable prices, also fall pigs either sex of popular blood lines. Aberdeen-Angus bulls, Heifers and Cows that are show winners. Write or come. E. A. CLARK, R. 3, St. Louis, Mich.

Maplehill Poland Chinas. Attractive spring gilts bred to a grandson of Liberator, bred to model Giant and Mich. Liberator 3d. for March & April farrow. George R. Wheeler Mt. Pleasant, Michigan.

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

Large Type Poland Chinas Fall pigs of either sex. Sired by Foxy Clansman 437975 Mich. Sr. Champ. 1922. T's Clansman 391211 Mich. Sr. Champ. 1920 and T's Big Orange 491463. Write or come and see them. A. A. FELDKAMP, Manchester, Mich.

Large Type Poland China Gilts sired by Mich Liberator, & Big Checkers. Bred to model Giant and Mich. Liberator 3d. for March & April farrow. George F. Aldrich, R. 6 Ionia, Mich.

Lone Maple Farm Big Type Poland Chinas. Nothing for sale at present. F. B. DAVIS & SON, Belding, Mich.

Large Strain P. C. a few choice gilts left. Bred for April farrow. You can't beat the breeding nor price. H. O. SWARTZ, Schoolcraft, Mich.

P.C. Choice gilts sired by a son World Champion Big Bob and 1075 Peter Pan. Bred to Model Clansman, also fall pigs. C. E. Garnant, Eaton Rapids, Mich.

Big Type Poland China Hogs from prize winning stock, fall pigs, either sex, eligible to Reg. W. E. LECKY, Holmesville, Ohio

The Real Estate Market Place

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

Auction Sale

APRIL 2, 1923

A Ideal Dairy Farm having: a distance of only 1/4 mile to railroad Depot. A creek originating from a spring right on the farm. Running water at the house furnished by Ram at Spring. Largest barn in community. Large comfortable house and well arranged outbuildings. Size of about 170 acres.

WILL BE SOLD AT AUCTION

On easy terms.

By widow of late owner, Mrs. A. Wilkens, There will also be sold, 1 Cletrac Model M. Tractor, 1 Samson Tractor, 1 Oliver 3/4 bottom Plow.

And complete equipment of Farming Implements. All in first class condition, at

NESSEN CITY, MICH. (M. & N.E. R.R.)

\$2000 Gets So. Michigan Farm 80 Acres with 5 Cows and

Team, sows, 100 poultry, furniture, modern implements, tools, seed, gas engine, etc.; splendid advantages for whole family, good income from start; on main trunk line road to Detroit; near village; 70 acres rich loamy tillage for wheat, oats, potatoes, etc.; stream-watered, pasture, variety fruit; excellent 2-story 7-room house, running water, 46-ft. basement barn, poultry house. To settle affairs now all \$8000, only \$2000 needed. Details page 29 Illus. Catalog. Bargains many states. Copy free. Address me personally. E. A. STROUT, Pres., STROUT FARM AGENCY, 427KH Marquette Bldg., Chicago, Ill.

Hampshires spring boars and bred gilts from order now or you may be too late. 10th year. JOHN W. SNYDER, R. 4, St. Johns, Mich.

SHEEP

800 BRED EWES FOR SALE

in lots of 50 or more, black faced, from 1 to 4 yrs old; no broken mouths, in good condition, bred to Shropshire and Oxford rams to lamb May first. Located 22 miles S.W. of Detroit on Detroit and Toledo electric and Dixie Highway. Telegraph address, Rockwood. A. M. B. Chapman, So. Rockwood, Mich.

Twenty-Eight Registered Rambouillet Ewes (wood flock) to lamb in April; bred to \$650 ram. Also seven yearling ewe lambs and seven yearling ram lambs, in fine condition. \$750 buys the lot. John T. Clark, Clinton, Mich.

HORSES

FOR SALE First class registered Belgian Stallion wt 2250, 9yr. \$250. HARRY MARSH, Au Gres, Mich.

FOR SALE Choice Registered Stations and Mares. Prices reasonable ELMAN C. BISHOP, St. Johns, Mich.

RATES

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

\$1600 Cash Gets 120 Acre Equipped Farm Near Big City Markets.

Located in rich farming section, 2 1/2 miles to town, with advantages; 8 miles to large industrial city; 70 acres rich, fertile tillage; 50 acres wood and pasture; variety fruit; new 6-room house, cellar, furnace, heat, mail and telephone, well at door; 44-ft. barn, 1100 lbs. 9 head; silo, other buildings. Owner gives you for quick sale 9 full blood Jersey cattle, 1 bull, 1 brood sow, 25 poultry, splendid list farm machinery and tools, hay, straw, ensilage, oats, corn, potatoes, stove-wood. Immediate possession; step right in and start with profitable income. Price \$9,000, only \$75 an acre, with \$1,600 cash down, balance very easy terms. Write or see Wayne F. Townsend, Grand Blanc, Mich., or Michigan Farm Agency, 628 Ford Bldg., Detroit.

For Sale 120 acre farm all under cultivation. 11 miles from Bay City on gravel road. Good soil in high state fertility, good drainage. Fenced and cross fenced. Two deep wells. Bearing orchard. House with full basement, and cistern. Cow barn 36x70, silo 16x30, cement floor and stanchions, hip roof barn 40x30, horse barn 36x44. Tool shed and other buildings. 36 registered Jerseys, 4 horses. Will sell all or farm alone. Owner LAWRENCE RUISTORFER, Kawkaulin, Mich.

FOR SALE. 40 acres all improved but two acres of small timber, good seven room house with cellar, hip roof barn 36x48, wagon house, hen house and garage, fruit, good soil, level, well-fenced, water, school, church close, 3 miles to town, 7 miles to railroad station, \$100 per acre, \$1500 down, balance easy terms, possession at once. GLEN ALLEN, R. 8-37, Ann Arbor, Mich.

Farm For Sale or Exchange

Will exchange for either Detroit or Toledo income property. Owner moving to Detroit. 240 acres of good dairy farm, good buildings, barn, has cement Twenty steel stanchions. Tile silo. Good fences and spring water. Write owner. BOX 1, ROSE CITY, MICH.

160 ACRES All fenced, 60 acres improved, house, stable, silo, etc. 5 acres bearing orchard. Trout stream across one corner, gravel road, telephone and R.F.D. Good soil. North Eastern Mich. Development Bureau Box 2, Bay City, Mich.

FOR SALE 80 acres improved 4 mi city; horses, team, sows, hay, straw, grain, silage, milking machine, cream separator and farm implements included. Good roads. One-half mile school and church. C. Zimmer & Son, R. 4, Jackson, Mich.

WILL BUY virgin tracts of Hardwood Timber 60 to 300 acres. GEO. I. McCLURE 2521 Clark Ave. Detroit, Mich.

Wanted To hear from owner of land for sale O. K. HAWLEY, Baldwin, Wisconsin Additional Farm Ads on Page 443



GRAIN QUOTATIONS

Tuesday, March 20.

Wheat.
 Detroit.—No. 2 red at \$1.36; No. 2 mixed \$1.36; No. 2 white \$1.36.
 Chicago.—No. 3 red at \$1.08; No. 2 hard \$1.21½; May \$1.21½.
 Toledo.—Cash \$1.36@1.37.

Corn.
 Detroit.—Cash No. 2, 79c; No. 3 yellow 77c.
 Chicago.—No. 2 yellow 75½@76c; No. 3 mixed 73¼@75c.

Oats.
 Detroit.—Cash No. 2 white 49½c; No. 3, 48c.
 Chicago.—No. 2 white 46½@46¾c; No. 3 white 45@45¾c.

Beans.
 Detroit.—Immediate and prompt shipment \$7.40.
 Chicago.—Choice hand-picked Michigan beans \$8.25; red kidneys at \$8.60.

Rye.
 Detroit.—Cash 83½.
 Chicago.—None.

Seeds.
 Detroit.—Prime red clover cash at \$12.25; April at \$12; alsike at \$10.25; timothy \$3.35.
 Toledo.—Prime red clover cash at \$12.40; alsike at \$10.50; timothy cash at \$3.40.

Hay.
 Detroit.—No. 1 timothy \$16@16.50; standard \$15.50@16; light mixed at \$15.50@16; No. 2 timothy at \$14@15; No. 1 clover \$13@14; rye straw \$11.50@12; wheat and oat straw \$11@11.50 per ton in carlots.

Feeds.
 Bran \$38; standard middlings at \$37.50; fine do \$39; cracked corn \$36; coarse cornmeal \$34; chop \$30 per ton in 100-pound sacks.

Fruit.
 Apples.—Jonathans \$6.50 a bbl.; Kings \$5.50@5.75; Northern Spies \$6@7; Greenings \$5.50; Baldwins \$5.50@5.75.

WHEAT

European stocks are small. As a result demand for American wheat increased last week. This gave the market a new stimulus and prices advanced at Chicago to the highest point in a month. Domestic demand for flour shows no notable change but mills are still grinding at a rate slightly above the average for this season. Rain and snow in the southwest have improved new crop prospects. Argentina and Australia both are rapidly disposing of their surplus wheat.

RYE

The exportable surplus from the last rye crop was approximately 55,000,000 bushels, of which 40,000,000 bushels at least, have been cleared. The visible supply now contains 16,305,000 bushels. It seems that this market has seen its worst and should make a better showing hereafter.

CORN

Export sales have increased materially. Receipts at primary markets have been relatively light. Argentine exports of corn have fallen off. The total movement of corn to Europe fell off sharply when Argentine shipments declined and the broader outlet for American corn may represent an effort to replenish stocks. The United States is practically the only source at the present time.

OATS

The oats situation is gradually gaining in strength. The visible supply is now 26,208,000 bushels, compared with 67,843,000 bushels at the corresponding time last year.

SEEDS

Cloverseed prices declined further last week and are now nearly \$4 per bushel lower than at the corresponding time last year. The last crop was a large one and demand this spring has been disappointing thus far, due, in part to severe weather in late winter. Buying may pick up shortly and be relatively heavy during April as has been the case in the last two or three years. Timothy seed prices show little change.

FEEDS

Feed markets are quiet with the demand from consuming sections very limited. Prices show a downward trend. Quotations upon bran and linseed meal for future shipment are at sharp discounts.

HAY

Hay prices have been practically steady during the past week. Country loadings increased for a short period but severe weather will probably check them again. Demand is confined mostly to the better grades.

POULTRY AND EGGS

Receipts of eggs at the four leading markets increased about 45 per cent last week and prices were depressed practically to a storing level. Stormy weather later on gave the market a firmer tone because of its interference with production and with country collections. No eggs have been placed in storage as yet. Since consuming demand during the rest of the month is quite likely to be unusually heavy, prices should hold and may even advance slightly. Receipts of dressed poultry are holding up exceptionally well and are running far ahead of the corresponding time last year. Withdrawals from cold storage at the four leading cities are running from 200,000 to 500,000 pounds daily and prices are fairly firm.

Chicago.—Eggs miscellaneous 24½@25c; dirties at 23@24c; checks 22@23c; fresh firsts 25@25½c; ordinary firsts 24@24½c. Live poultry, hens at 26c; springers 28c; roosters 16c; ducks 25c; geese 13c; turkeys 25c.

Detroit.—Eggs fresh candled and

graded 26@27c. Live poultry, heavy springers 27@28c; light springers 24c; heavy hens 27@28c; light hens 24c; roosters 17c; geese 20c; ducks 27@30c.

BUTTER

Receipts of butter at the principal markets declined last week and prices gradually strengthened as a result, making gains of one to two and a half cents for the week. Butter continues to disappear into consumptive channels at a rapid rate and there is no big reserve in storage to draw upon when receipts are temporarily small. The make has not increased much of late and reports from the country are to the effect that stocks are well cleaned up and that there have been no delays in transit to bring about the light receipts. Under-grades are especially scarce with an abnormally small spread between these and the higher scores. Prices for fresh butter are about ten cents higher than at this time last year.

Prices for 92-score fresh butter were as follows: Chicago 50c; New York 50½c. In Detroit fresh creamery in tubs sells for 48@49½c.

BEANS

The bean market has weakened as a result of extremely light buying with choice, hand-picked whites quoted at \$7.70 per 100 pounds f. o. b. Michigan shipping points, and red kidneys at \$8.20. Allowing for seed to plant what is expected to be a record acreage this spring, remaining stocks in the state are reported to be only about sixty per cent of normal. Rumors of big shipments of beans from Japan in the last few weeks were

greatly exaggerated. Cargoes arriving are much smaller than originally reported.

POTATOES

Potato prices were steady to strong last week, both in city markets and at shipping points. The carlot movement from surplus sections was again approximately 5,000 car for the week which is exceptionally heavy for this season of the year. New York sacked round whites are quoted at \$1.65 to \$1.80 per 100 pounds in consuming markets, and northern stock at \$1 to \$1.15 in Chicago.

WOOL

Manufacturers by playing a waiting game have forced slight declines, especially on wools suitable for making woollens. Staple wools are practically steady. A deadlock seems to have developed in the west. Some Utah and Oregon fine and fine medium wools have sold at forty-two to forty-three cents, but buyers are doing little and growers refuse to sell except at substantially higher figures. Foreign markets are holding practically steady. Manufacturers are known to have heavy advance orders for goods, and undoubtedly must come into the market before long to replenish their supply of raw wool.

HORSES

All horses suitable for that outlet are going into the farm trunk trade at present. Most of the offerings weighing 1,250 to 1,450 pounds are selling at Chicago at a range of \$90 to \$150. A few wagon horses brought \$150 to \$200. Ton drafters were sold as high as \$335.

DETROIT CITY MARKET

The demand for potatoes has increased and the price has increased. Poultry is in good demand because of light supply. Apples are plentiful but the demand is good for them. Eggs are coming freely and the demand for them is light. Apples are quoted at 75c@2.50 per bu; cabbage 75c@2; carrots 75c@1; eggs 35@40c; dry onions \$1@2 per bu; potatoes 70@75c; live poultry 29@35c; veal 16½@18c; hogs 8@12½c.

GRAND RAPIDS

Eggs continued this week to be the center of interest on the Grand Rapids market. Within the past ten days bids to producers fell a total of eight cents per dozen, the decline being arrested temporarily at 22@24c per dozen. The dealers are predicting 20-cent eggs before the end of the month but they are looking for a spurt as soon as the packing season opens. With the trade in the United States preparing for a 13,000,000-case pack as compared with 10,000,000 last year, and 7,500,000 in 1921, a strong April market is anticipated. No packing has been done here as yet and will not start until all danger of chilled eggs is removed. Leaf lettuce was a little stronger early this week. This was not the result of restricted production but rather to the general higher tendencies usually manifested just before Easter. Beans were lower, ranging from \$7@7.25 per cwt. Maple syrup was in the market at \$2.50 per gallon. Other commodities were mostly steady with a stronger feeling in potatoes at 35@40c per bushel.

BEE TOWERS TO MEET.

The annual meeting of the Michigan Sugar Beet Growers' Association will be held at Saginaw, on Wednesday, March 28, at one o'clock, in the auditorium. With the acceptance of a 50-50 contract by some of the sugar companies, and with the advance in sugar prices, farmers have taken renewed interest in this crop. This annual meeting, therefore, has increased importance and promises to be well attended.

COMING LIVE STOCK SALES.

Chester White Hogs.
 March 30—F. A. Fowler, Harpster, Ohio. Night Sale.
 Holstein.
 March 28—L. M. Shoreman, Fowlerville, Mich.

Live Stock Market Service

Wednesday, March 21.

DETROIT

Cattle.
 Receipts 459. Market is steady at Tuesday's decline.
 Best steers \$ 8.00@ 8.50
 Handyweight butchers .. 8.00@ 8.50
 Mixed steers and heifers 7.25@ 7.75
 Handy light butchers ... 6.00@ 7.00
 Light butchers 5.25@ 5.75
 Best cows 5.50@ 6.00
 Butcher cows 4.50@ 5.50
 Common cows 3.25@ 3.75
 Canners 2.75@ 3.00
 Choice bulls 5.50@ 6.50
 Bologna bulls 5.00@ 5.75
 Stock bulls 4.25@ 5.00
 Feeders 6.00@ 7.00
 Stockers 4.75@ 6.25
 Milkers and springers.... 40.00@80.00

Veal Calves.
 Receipts 682. Market strong to 50c higher.
 Best \$13.50@14.50
 Others 6.00@13.00

Sheep and Lambs.
 Receipts 109. Market steady.
 Best lambs \$14.50@14.75
 Fair lambs 12.00@13.50
 Light to common 9.00@11.25
 Fair to good sheep..... 7.50@ 8.50
 Culls and common 2.00@ 4.00

Hogs.
 Receipts 2,442. Market 15c lower.
 Mixed hogs and yorkers... \$ 8.85
 Stags 4.00@ 5.00
 Roughs 7.25
 Pigs 8.65
 Heavies 8.00@ 8.75

CHICAGO

Hogs.
 Estimated receipts today are 38,000; holdover 5,000. Market slow, mostly 25c lower. Bulk of sales at \$8@8.50; tops \$8.60; heavy 250 lbs up \$8@8.30; medium 200 to 250 lbs at \$8.20@8.50; light 150 to 200 lbs \$8.40@8.60; light lights 130 to 150 lbs \$8@8.60; heavy packing sows 250 lbs up \$7.40@7.75; packing sows 200 lbs up at \$7@7.50; pigs 130 lbs down \$7@8.35.

Cattle.
 Estimated receipts today are 15,000. Beef steers slow, weak to 25c lower; butcher she stock weak to 15c lower; others steady. Beef steers medium and heavyweight 1100 lbs up \$9.65@

10.35; do medium and good at \$8.15@9.65; do common at \$6.75@8.15; light weight 1100 lbs down \$9.25@10.25; do common and medium at \$6.50@9.25; butcher cattle heifers at \$5.65@9.85; cows \$4.50@8; bulls bologna and beef \$4.85@6.85; canners and cutters cows and heifers at \$3.50@4.50; do canner steers at \$3.75@5.25; veal calves light and handyweight \$9.50@12.25; feeder steers \$6.35@8.35; stocker steers \$5@8; stocker cows and heifers \$3.75@5.75.

Sheep and Lambs.
 Estimated receipts today are 19,000. Market is active; wool lambs steady; clipped weak. Lambs 84 lbs down at \$13.75@15.25; do culls and common at \$10@13.50; spring lambs \$9.75@13.75; ewes \$6.50@9; ewes cull and common \$3.75@6.75; yearling wethers at \$13.25@15.25.

BUFFALO

Cattle.
 Receipts five cars. Market steady. Choice to prime shipping steers, 1,400 lbs and up \$9.25@9.75; good to choice shipping steers at \$8.25@8.50; heavy fat, medium quality \$7.75@8; medium to good \$7.25@7.50; light native yearlings fancy quality \$9@9.50; medium to good \$7.75@8; best handy steers \$7@7.50; plain \$7@7.25; handy steers and heifers \$7.25@7.50; western heifers \$7@7.25; light Michigan butchering heifers \$6.50@7; best fat cows \$6.25@6.50; medium to good at \$4.50@5; cutters \$3.25@4.25; canners good weight \$2.25@2.50; common and old rims \$10@10.50; light fat bulls at \$6.50@7; best heavy bulls at \$4.25@5.59; heavy bologna bulls at \$4.50@5; common bulls \$3.50@4; best feeders 700 to 800 lbs \$6.25@7; medium feeders \$6@6.25; stockers good \$5.50@6; light to common \$4.50@5; best milkers and springers \$60@80; common and medium \$35@45.
 Calves, tops at \$13.50.

Hogs.
 Receipts 20 cars. Market is slow. Medium and heavy \$9@9.25; yorkers \$9.25@9.35; pigs \$9.

Sheep and Lambs.
 Receipts five cars. Market higher. Top lambs at \$15.50; yearlings \$12@13.75; wethers \$9.50@10.50; ewes at \$8@9.

AMERICANS GOOD MEAT EATERS.

STATISTICS show that meat eaten by Americans in 1922 was equal to 150 pounds for every man, woman and child. Excluding babies and young children who get very little meat, this figures to more than a half-pound of meat per day for each person.

CONTROL THE SMUT.

IMPROVED methods of controlling smut on oats have been developed by the Iowa Experiment Station. These methods will cut two-thirds of the labor and time formerly required in treatment. The chief factor in the improved methods is the use of increased strength of formaldehyde.

The procedure briefly is as follows: A solution of formaldehyde is made by using one pint of forty per cent strength to ten gallons of water. The ten gallons are sprinkled over

eighty bushels of oats, while the oats are shoveled to insure a uniform distribution of the solution. As soon as the oats and solution have been thoroughly mixed, they are sacked and the oats are ready for seeding the next morning.

BELIEVES IN CLOVER.

WE have always given clover a prominent place on our farm as it is well adapted to our soil, fits into our crop rotation and a highly palatable and nutritious roughage for the growing stock and milch cows. I believe clover hay and alfalfa to be the most economic and profitable source of protein in the dairy ration. No dairyman should overlook the fact; that it is fundamentally important in the growing of crops for the dairy to enrich the soil and improve its productiveness as well as stimulating milk production.—L. Reynolds.

CLASSIFIED ADVERTISING

This classified advertising department is established for the convenience of Michigan farmers. Small advertisements bring best results under classified headings. Try it for want ads and for advertising miscellaneous articles for sale or exchange. Poultry advertising will be run in this department at classified rates, or in display columns at commercial rates.

MISCELLANEOUS

BOYS, GIRLS—15 big packages cucumber seed postpaid \$1.00; value, \$1.50. Recommend them to your friends. Very heavy bearer, excellent pickling, tender slicing, Michigan grown. Absolutely 1922 crop. This means dependable, quick germination—the seed your neighbors want. Guarantee; money refunded for seed returned. Order now, pay when received. Sweet Home Seed Farm, Pentwater, Mich.

FOR SALE—Some Rare Bargains. Complete Job Printing Outfit, Minneapolis Heat Regulator complete, Minneapolis Motor, with 2 in. steam valve, 4x5 Folding Camera with Tri Pod, Manhattan Typewriter. All in good condition. Arthur C. Moore, Lawrence, Mich., R. No. 1.

SWEET CLOVER SEED—White or yellow biennial. Inoculator for alfalfa, sweet clover, soy beans. Best pure culture bacteria in soil base. Guaranteed. Bushel-size can postpaid, 75c. E. E. Basil, Sweet Clover Grower, Latty, Ohio.

HOMESPUN TOBACCO—Chewing, 5 lbs., \$1.75; 10 lbs., \$3.00. Smoking, 5 lbs., \$1.25; 10 lbs., \$2.00. Pipe and recipe free. Send no money, pay when received. UNITED TOBACCO GROWERS, Mayfield, Ky.

KENTUCKY NATURAL LEAF TOBACCO—Chewing, 5 pounds \$1.75; 10 pounds \$3.00; 20 pounds \$5.25. Smoking, 5 pounds \$1.25; 10 pounds \$2.00. Send no money. Pay when received. Farmers' Co-Operative Tobacco Union, Paducah, Ky.

TOBACCO—Extra smoking, 5 lbs., \$1.00; 10 lbs., \$1.50; 20 lbs., \$2.75. Chewing, 5 lbs., \$1.50; 10 lbs., \$2.75. Quality guaranteed. O'CONNOR SMOKEHOUSE, S. 133, Mayfield, Ky.

FOR SALE—Strawberry Plants \$3.75 per 1,000 and up. Raspberry Plants \$11.00 per 1,000 and up. These plants are all state inspected. Write for price list. Fred Downing & Son, Holly, Mich.

TOBACCO, extra quality, hand picked, nothing shoddy, satisfaction guaranteed. Chewing, smoking and mild smoking; 5 lbs., \$1.75; 10 lbs., \$3.00. Send no money, postage unpaid. Chas. Goff, Hardinsburg, Ky.

SPEEDAWAY Farm Golden Russet Certified Seed Potatoes. Single bushel or car-load lots. Write or wire for prices. Geo. Harrison, Mantou, Mich.

SILVER FOXES—Highest quality registered stock. Special prices on this year's pups to early buyers. Volmar & Hughes, Muskegon, Michigan.

DO IT RIGHT. Keep safe record. Bill of Sale Form for Farmers and Breeders, \$1.00 per 100. 888 Dime Bank, Detroit, Mich.

FENCE BUILDER'S WIRE SPlicer; after 30 days trial send 25 cents or return splicer. Geo. D. Lockwood, Ypsilanti, Mich.

SEED POTATOS—Certified Potatoes. Northern grown. Butternut Farm, Lupton, Mich.

Ho San Soy Beans, certified Worthy Oats. G. P. Phillips, Livestock Auctioneer, Bellevue, Mich.

DOGS

GERMAN Shepherd, Airedales, collies; Old English Shepherd dogs; Puppies; 10c illustrated instructive list. W. R. Watson, Box 35, Macon, Mo.

POULTRY

RHODE ISLAND REDS—Rose Comb Cockerels, hen-hatched, farm raised. Big, thrifty dark colored birds from prize winning strains, \$4 to \$7.50. Two specials at \$10 each. Careful attention to mail orders. Bidwell Stock Farm, Tecumseh, Michigan.

GESE—Toulouse, African, Emden, DUCKS—Pekin, Rouen, Runner, Muscovy. Price reasonable. John Haas, Bettendorf, Iowa.

S. C. BLACK MINORCA COCKERELS, Northrup strain, \$2 and \$1. Eggs for hatching and Baby Chicks. C. J. Deedrick, Vassar, Mich.

ROSE COMB Rhode Island Red Cockerels, \$3.00 to \$5.00. First prize Cock \$10.00. Mating list free. Ira J. Hiller, Bay City, Mich.

WINGOLD BUFF ORPINGTONS—Best Display winners at Cleveland and Pittsburgh many years. Great winter layers. Ideal market fowl. (Flock average 248 eggs). Eggs \$3.00 per 15; \$5.00 per 30; \$15.00 per 100. Order direct. Mating list free. F. A. Poertner, Box M, Berea, Ohio.

RHODE ISLAND REDS, R. C. Large, fancy cockerels at \$3 to \$5 each. Burt Sisson, Inlay City, Mich.

HATCHING EGGS. S. C. White Leghorns, Orpingtons. Good winter layers. Toulouse and Chinese Geese, Rouen Ducks. Kinsel's Poultry Farm, Berg and 10 Mile Roads, Birmingham, Mich., Route 1.

S. C. White Leghorn Cockerels from heavy egg-producing strain. These cockerels approved as breeders by Prof. Foreman, \$3.00. Mrs. Oril Ferguson, Route 6, Ann Arbor, Mich.

TANCRED ST. AIN. Free range, vigorous, heavy-laying, yearling S. C. White Leghorn breeders, mated to full blooded Tancred Cockerels, Eggs \$2 per 15, \$11 per hundred. Clare Camburn, R. 3, Tecumseh, Mich.

TEN PURE TOULOUSE GOOSE EGGS, \$4.75. Insurance and Parcel Post paid. Choice White Leghorn baby chicks, \$12.00 per 100. Amy Southworth, Allen, Mich.

SINGLE COMB REDS—Arnold's Strain. State Cup Winners. Hatching eggs \$3.00 per fifteen, \$5.00 per thirty. Harry Theis, 283 Hunter St., Battle Creek, Mich.

SNOWY WHITE ROCKS. Fishel strain. Eggs \$1.50—15; \$3.75—50; \$7.00—100. Prepaid. Mrs. Earl Dehnhoff, Vanburen, Ohio.

BOURBON RED TURKEYS—A few tons of the larger strain left. \$12.00 each. Order direct from add. Ernest E. Rea, Hillman, Mich.

WHITE LEGHORN COCKERELS direct from Ferris. 300 egg strain, \$5.00. Blanche Boss, Ellsworth, Michigan.

RINGLEAF BARRED ROCKS, Stock, Chix, Eggs. Portfolio free. Satisfaction understood. Stanley Bailey, Reading, Mich.

68 VARIETIES Fine purebred poultry, stock, eggs, chicks. Large catalog 5c. A. A. Ziemer, Austin, Minn.

CAPONS BY NEW SYSTEM—Success assured; book ten cents. Simplex Products Co., 8-F So. Dearborn St., Chicago, Ill.

50 Giant Black Minorca Cockerels \$2.25. Eggs \$8.00 per 100. Mike Schaefer, Essexville, Michigan.

MARTIN W. Wyandotte eggs, \$1.00 per 15. C. H. Spooner, Rosebush, Mich.

PEAFOWL, Pheasants, Bentams, Pigeons. Free circular. JOHN HAS, Bettendorf, Iowa.

FOR SALE W. H. Toms, Large, healthy and vigorous. A. R. Teeter, Scottville, Mich.

BABY CHICKS

WHITE WYANDOTTES and Rocks \$18 per 100; \$9.50 for 50 and \$4.75 for 25. Barred rocks and R. I. Reds \$17 per 100; \$8.75 for 50 and \$4.50 for 25. White Leghorns \$14 per 100; \$7.50 for 50 and \$4.00 for 25. Terms cash with order of at least \$5 for each 100 chicks ordered, balance one or two weeks before chicks are to be shipped. Meadow Brook Hatchery, Mt. Morris, Mich.

CHICKS GUARANTEED—Healthy, sturdy thriving chicks. Flocks that are mated with Michigan Agricultural College cockerels, Barred Rocks, S. C. Anconas, White and Brown Leghorns, pullets and breeding cockerels. Safe arrival, postage paid, catalog free. Fairview Hatchery and Poultry Farms, Route 2, Zeeland, Mich.

BABY CHICKS—S. C. White and Brown Leghorns, Buff Orpingtons, Barred Plymouth Rocks, S. C. and R. C. Reds, White Wyandottes and Anconas. Free range on separate farms. \$15.00 per 100 up. Write for prices. P. W. Stone Hatchery, P. M. Milliken Mgr., Fenton, Mich., Lock Box 44.

BABY CHICKS From Michigan's Champion Layers of best Barron Strain. Official pen average 232 eggs per hen in one yr. All mated to Pedigreed Cock birds. All birds Trap Nested. Free descriptive catalogue. Live arrival guaranteed. Strick Poultry Farm, R. 4, Box M, Hudsonville, Mich.

CHICKS—English type, White Leghorns, Anconas, Barred Rocks. From flocks culled by experienced poultry men. Quality is what we got. Trial orders make permanent customers. 97% live delivery. Write for free catalog and price list. Old Reliable Hatchery, Zeeland, Michigan.

ANCONAS—"Superior Quality" Baby Chicks and Hatching Eggs from our prize winning, heavy laying M. A. C. selected breeding stock. Prices reasonable. Satisfaction guaranteed. Catalog. Mannings Ancona Farm, Coldwater, Mich.

ORIGINAL flock Dr. Heasley Egg Basket Strain. Buff Leghorn Chicks. Breeding Hens and Cockerels. Also Tom Barren English Strain White Leghorn Chicks and Barred Rocks. M. A. C. Stock. Circular free. Hillside Hatchery Farm, Holland, Mich., R. 3.

BABY CHICKS bargain prices. Barred Rocks, White and Brown Leghorn. Guarantee full 100% alive, free delivery. Hillview Poultry Farm Hatchery, R. 12, Holland, Mich.

BABY CHICKS from heavy egg producing strain. English and American S. C. W. Leghorns closely culled, 100% alive. Circular free. Montella Hatchery, Route 1, Holland, Mich.

BABY CHICKS, 15 Leading varieties. 2 1/2 Million for 1923. The kind that lay early. Large, vigorous, fluffy kind. Lowest prices. Send for large catalog. D. T. Farrow Chickeries, Peoria, Ill.

BABY CHICKS—Remarkable for size and strength. Reasonable prices. Leghorns, Anconas, Rocks, Reds, Wyandottes, Orpingtons, Minorcas, Spanish, Brahmans. Tyrone Poultry Farm, Fenton, Mich.

STURDY Chicks—Pure Bred-to-Lay Flocks Single Comb White Leghorns, Anconas, Rocks, Reds, Pekin Ducks. Catalog. Sunnybrook Poultry Farm, Hillsdale, Mich.

STERLING QUALITY CHICKS—14 varieties, pure bred, inspected flocks. Inspectors who know a chicken. Satisfaction positively guaranteed. Attractive prices. Catalog free. F. F. Clardy, Ethel, Mo.

QUALITY CHICKS for delivery each week after March 1st. S. C. White and Brown Leghorns. 100% live delivery. Catalog free. Standard Hatchery, Box B, Zeeland, Mich.

ANCONAS—Sheppard's famous strain direct. Foundation stock from Sheppard's first pen. Chicks at farmers' prices. Jacob ver Duin, Route 4, Zeeland, Mich.

BABY CHICKS—Six leading varieties. Write your wants. Special prices on large, advance orders. Free catalog. H. H. Pierce, Jerome, Mich.

BABY CHICKS AND HATCHING EGGS Direct from our farm at greatly reduced prices, only 9c up. Barred Rocks, W. Leg, and Anconas. Write quick for particulars and special introductory offer. Model Poultry Farm and Hatchery, Zeeland, R. 4, Mich.

WINTER EGGS and lots of them if you get chicks from our own prize winning utility White Leghorns. Learn why our chicks are better from our free circular. Fine Lawn Farm, Route 9, Grand Rapids, Michigan.

CHICKS—S. C. W. Leghorns \$12 per 100, R. I. Reds \$15 per 100, delivered. 100% alive guaranteed. Reduced prices in 1000 lots. Waterway Hatchery, Route 4, Holland, Mich.

BABY CHICKS—S. C. White Leghorns, carefully selected, heavy producers. Bank reference. Write for prices. Postpaid, live delivery guaranteed. Louis L. Van Huis, Holland, Mich., Route 1.

CHICKS—The finest day-olds money can buy. Strong, big. From free-range selected stock farmers for heavy laying. Shipped by parcel post. Write for price list. Flint River Valley Hatchery, Montrose, Mich.

WHITE LEGHORN BABY CHICKS for delivery each Monday after March 1st. 100% live delivery guaranteed. The Byron Hatchery, Byron, Mich., David Chaffee, Prop.

BARRED PLYMOUTH EGGS for hatching. Thompson strain, recognized best in U. S. \$3.00 per setting of 15 eggs. Orders booked for future delivery. C. G. Postvedt, Ambie, Mich.

BARRED ROCK Baby Chicks. Chicks that grow and lay and pay. Hatched right and priced right. Guaranteed. Kazoo Hatchery Co., R. 3, Kalamazoo, Mich.

RICHARDSONS ROCKY RIDGE pure Park strain Barred Rock Baby Chicks, \$16 per 100. Hatching eggs \$2.00 per setting. Hanover, Mich.

BARRED ROCK Baby Chicks from our Hoganized, nicely barred yearling hens, mated to cockerels whose dam and sire's dam each laid 231 eggs in their pullet year. Satisfaction guaranteed. Price 13c each. Gordanier's Poultry Farm, Route 10, Box 47, Kalamazoo, Mich.

BARRED ROCK CHICKS from my stock that won Michigan contest 1921, 264 and 258 hens champion sweepstakes. All possible firsts. Greatest production class ever cooped. Grand Rapids, 1923. Catalogue free. L. Aseltine, R. 1, Grand Rapids, Mich.

QUALITY CHICKS, eggs. Sixteen standard bred varieties. Best winter laying strains. Free delivery. Reasonable prices. Catalog free. Missouri Poultry Farms, Columbia, Missouri.

CHICKS. From free range selected flocks bred to lay. All popular varieties. Prices right. Send for catalogue. 100% delivery guaranteed. Homer Hatchery, Homer, Michigan.

1,000,000 PUREBRED CHICKS—Get our 20 page catalog before ordering. Rex Poultry Co., Clinton, Missouri.

25,000 PUREBRED chicks weekly. Lowest prices, live delivery guaranteed. Catalog free. Lindstrom Hatchery, Clinton, Mo.

CHIX \$12 per hundred up. Big fluffy, vigorous, eight pure breed varieties. Eighth season. Circular free. Silver Spring Hatchery, Fox 97, Abingdon, Ill.

EGGS THAT HATCH; Chicks that live. Low prices won over 5,000 prizes. Furnished Government and schools. Catalog free. Sterling Poultry Farms, Box 30, Sterling, Ill.

BABY CHICKS—From my own Tom Barron strain of beautiful lopped comb S. C. W. Leghorns. Nothing less than a 200-egg hen and as high as 267-egg hen in Grade A pen. Grade A, \$18 per hundred; Grade B, \$15. Satisfaction guaranteed. Gordanier's Poultry Farm, Route 10, Box 47, Kalamazoo, Mich.

BABY CHICKS—White Wyandottes, White Rocks, Barred Rocks, R. I. Reds and White Leghorn. Leghorns from M. A. C. 250 egg strain. Write for price list. Fenton Chicken Hatchery, Fenton, Mich.

LOOK 75,000 Hi-Grade Chicks 12c and up. 10 varieties. Best ever produced. Hatching eggs. Circular. Lawrence Poultry Farm, R. 7, Grand Rapids, Mich.

TANCRED and Hollywood White Leghorns direct. Eggs and chicks. Prices right. Circular. Maple Haven Farm, Jackson, Mich.

S. C. REDS hatching eggs, \$6.00 per 100, few chicks \$16.00 per 100. E. F. Cryder, Alamo, Mich.

HELP WANTED

WANTED—Married Couple, without children, to work on farm in Oakland County. Must be experienced in general farm work and woman to help with house work. Belgian or Hungarian preferred. Must have references. Can start at once. Unusual opportunity for right people. State wages expected. Address Box A-12, Michigan Farmer, Detroit.

WANTED—Representative in each County to sell small farm tractor. Unusual opportunity to one that can devote time to proposition and has wide acquaintance among farmers. Small capital required. Write now. LOCK BOX 212, Dowagiac, Mich.

WE PAY \$200 monthly salary and furnish rig and expense to introduce our guaranteed poultry and stock powders. Bigler Company, X 683, Springfield, Illinois.

WANTED—An experienced gardener at once to run truck farm near Akron, Ohio. Courtland Marshall, Mgr. Edgebrook Farms, Copley, Ohio.

WANTED—Married man by the year for milking and general farm work. State wages and full particulars. Give references. B. J. Hurd, Gagetown, Mich.

POSITIONS WANTED

WANTED—Position on stock farm or ranch in upper Michigan. Lifetime experience, married and have plenty of help. S. A. M., Box 134, Hermansville, Mich.

Farms and Farm Lands

Real Estate Ads. Continued from Page 441

For Sale Nevada Farm and Grazing Lands

Large holdings, the property of one family, located in Western Nevada, in vicinity of the modern city of Reno, are being subdivided. Small or large acreage is available at reasonable prices and on attractive terms. These lands are adapted to beef and mutton production, dairying, intensive truck farming. Principal crops are alfalfa, potatoes, onions, vegetables and grain. Irrigation water is plentiful under old established rights. Come West—there are wonderful opportunities for the farmer. Deal with the owner and eliminate commissions. D. C. Wheeler, Inc., P. O. Box 731, Reno, Nevada.

FOR SALE 80 ACRES

80 acres good soil, good condition, quite level; 10 acres wheat, 15 acres good timber, 50 apple, 20 cherry and 2 pear trees, 2 grape arbors; 12 room house, furnace and fireplace, windmill, barn 32x34, large horse barn and buggy shed, other outbuildings. Telephone, mail at door, 2 1/2 miles west Ortonville. Price \$8,000. \$2,000 down, balance easy terms. John B. Auton, Ortonville, Mich.

SMALL DOWN PAYMENT

80 ACRE NEW GROUND FARM 3 1/2 miles from Gladwin, Gladwin Co., on State Trunk Line M-18, excellent location for berry, bee and poultry farming, market right at your door, where hundreds of tourists pass for northern Michigan resorts. Twelve acres ready to crop, new 16 ft. x 24 ft. frame house, stable, well, etc. Write me at once for particulars. U. G. Reynolds, Gladwin, Mich.

Own a Farm

In Minnesota, Dakota, Montana, Idaho, Washington or Oregon. Crop payment or easy terms. Free literature. Mention state. H. W. Byerly, 71 Northern Pacific Ry., St. Paul, Minn.

Wyoming Agency Dry and Irrigated Dairy and Stock Farms, Homestead Relinquishment Cheap. Trades, City Lots, Stores, Summer Homes, 13 Mi. Mts. Licensed and Bonded Dealer, Glendo, Wyo.

Buy a Farm in the great fruit and farming country of Northwest Arkansas where land is cheap and terms are reasonable. For free literature and list of farms write J. M. Doyel Mountainburg, Arkansas.

80 A Clay Loam 50 A new seeding balance spring crop. Good 6 room house, barn, garage, 12x30 chicken house, young orchard. Price \$4000.00—\$500.00 cash. H. S. HICKS, Lake City, Mich.

FOR SALE Farm, 80 acres adjoining south limits of South Haven on East side Fruit Belt, R. R.; has good future for increase in value; price low; terms to suit buyer; address A. L. Foster, Room 620, 39 S. LaSalle St., Chicago, Ill.

WHY RENT When you can buy a farm in the famous Milk River Valley on easy terms? This Valley was once the bottom of the Big Missouri River. Most productive soil in the world. If farmed well two crops pays for the land. Write for FREE illustrated booklet and latest price list. FARMERS' LAND EXCHANGE, Saco, Mont.

Having Other Business will sell cheap 13 planted to 1400 fruit trees, also a lot of berries and all inside the limits of this city. H. J. HEARD, Owner, Crosswell, Mich.

For Sale, 20 acres. Fenced, about 12 acres in cultivation. 5 room frame house, hen house, stable, School 40 rods, R.R. station 3 miles. Manistee River 1/2 mile. R. P. D. Cheap for quick sale. Also 80 unimproved. F. M. Wardell, R. 1, Wellston, Mich.

Sell your property quickly

for cash, no matter where located. Particulars free. Real Estate Salesman Co., 515 Brownell, Lincoln, Neb.

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

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

FOR SALE

or trade for farm. Jackson Apt. house over \$200 month income. Apply Box M-11, Mich. Farmer.

I Will Sell for cash at assessed valuation 154 A good fertile land, 60 A in tillage, school on property located in Charlevoix Co., Mich. A. M. LEIGHTON, Whitehall, Mich.

We Have Cash Buyers for farms at real bargain prices. Describe fully. Central Land Bureau, New Franklin, Mo.

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

If You Want To Sell Your Farm

Write, JEROME PROBST, Ann Arbor, Mich.

Our List of Central Michigan farms now ready. If you wish to buy or sell write us. MILLER & MORSE, Edmore, Mich.

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

Farm for sale on hard road one mile from good market \$8.00 per acre. J. E. TOBIAS, 506 Maple St., Battle Creek, Michigan.

WANT TO HEAR from owner having farm for sale. Must be a bargain for cash. ALBERT J. SHIRLEY, 703 South Rose St., Kalamazoo, Mich.

I Want Farms in Mich. for cash buyers. Describe and state price. R. A. McNow, 324 Wilkinson Bldg., Omaha, Neb.

Wanted to rent small farm 25 to 40 A. GEORGE H. COSTELLO, R. 4, Dearborn, Mich.

NEW YORK State farm catalog and map free. Buffalo Farm Exchange, Buffalo, N. Y.

Listen 40 A. imp. farm \$1200. Good terms. Other farms. McGrath, Mountain View, Mo.

Farm Wanted Give description, cash price. R. E. LEADERBRAND, Cimarron, Kans.

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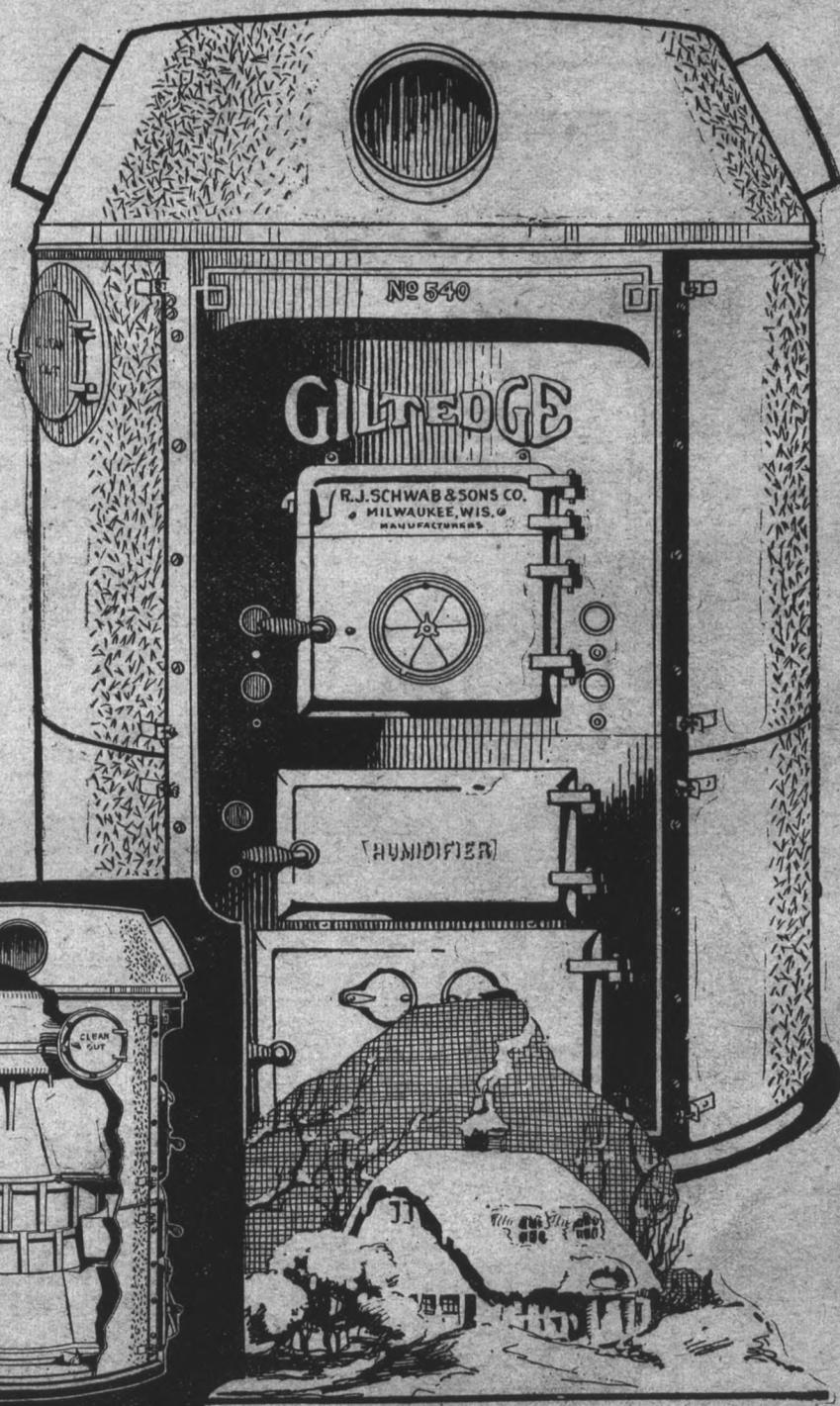
A Development of Gilt Edge Service

Gilt Edge dealers now have the new and even better Gilt Edge Furnace on display. See it. Learn what great strides have been made in furnace designing and building. Have your dealer explain the improved construction features that make Gilt Edge furnaces do the work of larger furnaces of other makes at a great saving in fuel. Don't think of buying any heating system until you have seen the new Gilt Edge.

The new Gilt Edge is an engineering triumph. It was made possible through Gilt Edge Service which has brought the heating problems of thousands of homes to the attention of our engineers. We have dug deep into these problems and have developed the Gilt Edge to a point of remarkable efficiency. Many vital improvements have been made, based on thorough scientific tests and careful research work.

To fully appreciate the advanced construction of the new Gilt Edge, you must see it. Compare the Gilt Edge with other furnaces, point by point. And then remember that, in addition to a superior furnace, the Gilt Edge Home Owners' Heating Service Department and your Gilt Edge Dealer offer you a Service which has no equal in the heating field. Go to your Gilt Edge Dealer. See the new and better Gilt Edge and learn why Gilt Edge Service means complete satisfaction. Write for descriptive folder and the name of the nearest Gilt Edge dealer.

Many Improved Construction Features That Mark a New Era in the Industry



The New Radiator

Radiator has larger diameter and larger cross section—greatly increased radiating surface. Bigger outlet is provided for smoke and gases which completely fill both sides of radiator, increasing heating efficiency. The dome head and outer part of radiator are joined by perpendicular walls which form flues and facilitate air travel. These walls also add to the strength of the radiator and evenly distribute weight of radiator on the body casting.

The New Fire Pot

Greater depth, greater fuel capacity. It is heavily ribbed—prime heating surface is increased approximately 60%. Stronger and will last many more years. Large radiating surface eliminates danger of burning out or melting. Maximum heating ability for size of fire pot. Sectional fire pot has vertical sides, assuring a clean and even burning fire.

The New Combustion Chamber

Ribbed for greater strength, carries weight of radiator without strain on body casting. Deeper construction—more perfect combustion; complete ignition of fuel and gases. More heat units are extracted from fuel, greater economy. Large double feed door is provided. Lower section is ample for ordinary firing. With upper section, it accommodates largest blocks of coal or wood.

Other Features

Larger casing, more free air space. Grates easily removable separately. Smoke and gas tight joints. Large double fuel door. Large ash door. Concealed water pan. A furnace which is pleasing in appearance.

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